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of Transportation

**National Highway  
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400 Seventh Street, S.W.  
Washington, D.C. 20590

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TRANSPORTATION RESEARCH CENTER

Indiana University  
[REDACTED], Indiana 47405

ON-SITE AIR BAG INVESTIGATION

CASE NO. - 90-02  
FLEET - PRIVATE VEHICLE  
LOCATION - [REDACTED], WISCONSIN  
ACCIDENT DATE - [REDACTED], 1990

Submitted By:

[REDACTED]  
Associate Scientist

[REDACTED], 1990

Contract Number: DTNH22-87-C-07169

Prepared for:

U.S. Department of Transportation  
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Washington, D.C. 20590

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15. Supplementary Notes On-site air bag deployment investigation involving a 1990 Dodge Daytona					
16. Abstract <p>This report covers an on-site investigation of an air bag deployment collision that involved a 1990 Dodge Daytona and a 1982 Ford 9000 tractor-semitrailer. The Daytona was traveling northeast in the eastbound lane of a two-lane undivided state roadway. The front of the case vehicle impacted the front left corner of the Ford 9000 tractor-semitrailer causing the driver side supplemental restraint system (air bag) to deploy. The driver sustained the following fractures: distal left femur, right intertrochanteric, right acetabulum, left iliac wing, multiple right and left metatarsals, and multiple left ribs with flail chest. In addition, the driver sustained a left lung contusion.</p>					
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## TRC/IU ON-SITE AIR BAG INVESTIGATION

TRC/IU CASE NO. 90-02

FLEET - PRIVATE VEHICLE  
LOCATION - ██████████, WISCONSIN

### Summary

This report concerns a motor vehicle accident involving an air bag equipped 1990 Dodge Daytona and a 1982 Ford 9000 tractor-semitrailer occurring on ██████████, 1990 at ██████████ p.m. near ██████████, Wisconsin on a State Road.

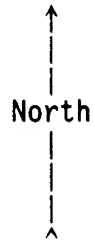
The Daytona was traveling northeast on a two-lane undivided roadway when it impacted the Ford 9000 tractor-semitrailer which was traveling west on the same roadway. The Daytona's forward momentum was halted; it was pushed rearward and rotated clockwise after impact coming to rest in the eastbound lane facing southeast. The Ford 9000 tractor-semitrailer was pushed northward a short distance during the impact, and after impact it continued westward coming to rest facing west partially on the north shoulder.

The front of the Daytona impacted the front left of the Ford 9000. The CDC for the Daytona was determined to be: 12-FDEW-5 and the TDC for the Ford 9000 was estimated to be: 11-FLEW-2. This collision was out-of-scope for the CRASHPC reconstruction program.

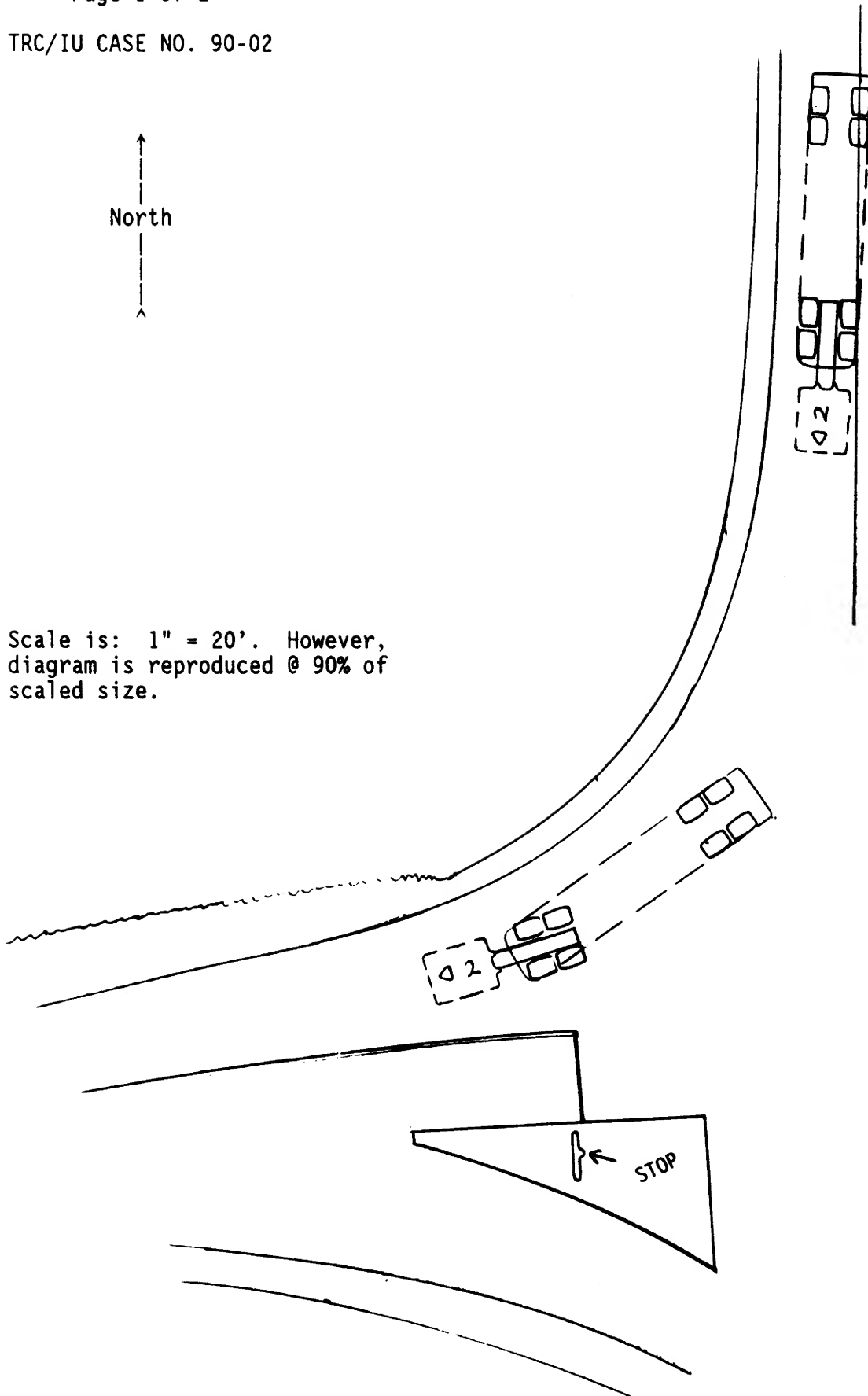
The 1990 Dodge Daytona was equipped with a driver supplemental restraint system (air bag) which deployed as a result of the frontal impact. The driver of the vehicle (38 year-old male) was not wearing the available active three-point lap and shoulder belt. He sustained the following fractures: distal left femur, right intertrochanteric, right acetabulum, left iliac wing, multiple right and left metatarsals, and multiple left ribs with flail chest. In addition, the driver sustained a left lung contusion. The driver of the Daytona was listed on the Police Accident Report as sustaining an "A" (incapacitating) injury as a result of the collision. The driver (32 year-old male) of the Ford 9000 was listed on the Police Accident Report as sustaining a "C" (possible) injury.

ACCIDENT SCHEMATIC  
Page 1 of 2

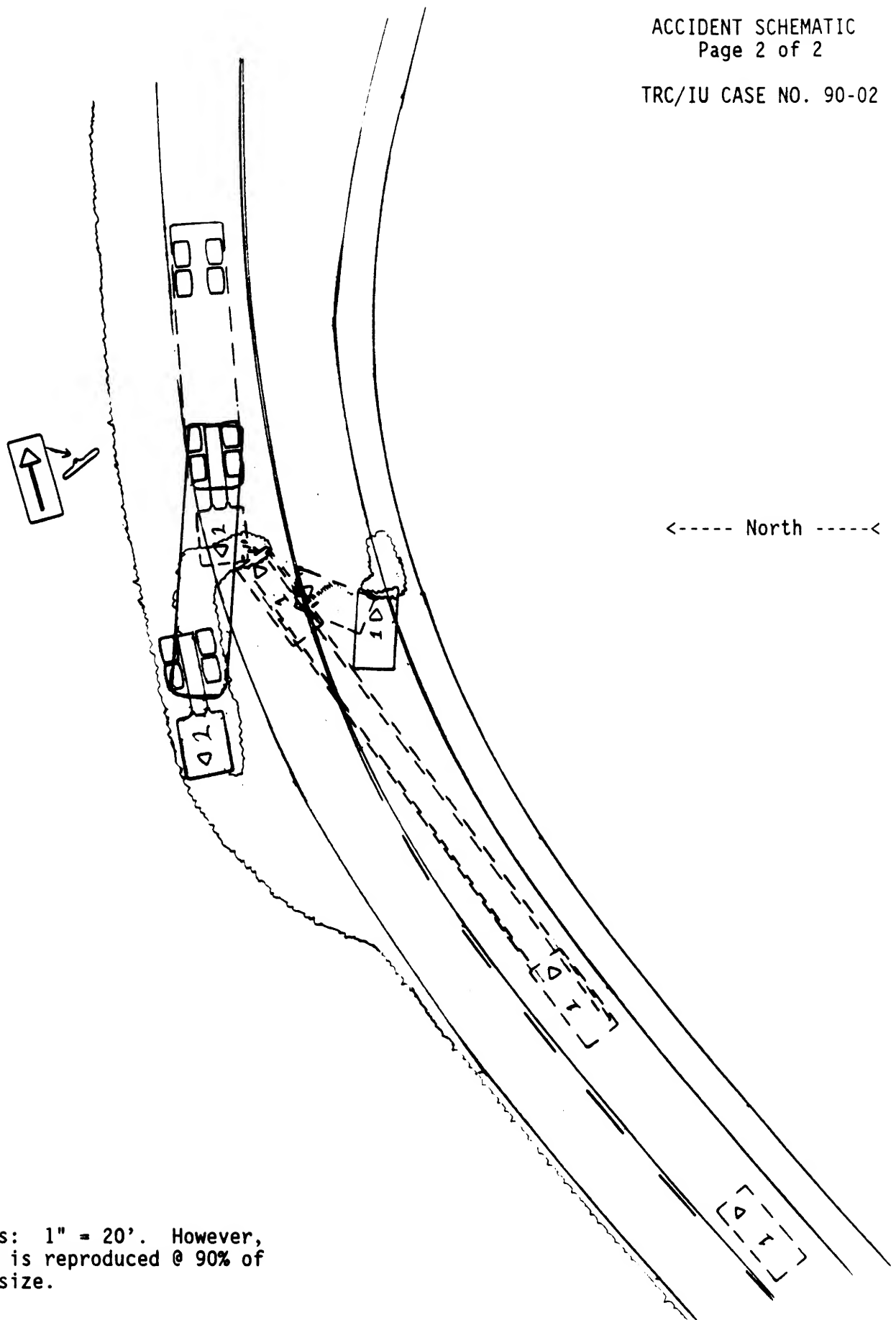
TRC/IU CASE NO. 90-02



Scale is: 1" = 20'. However,  
diagram is reproduced @ 90% of  
scaled size.



TRC/IU CASE NO. 90-02



Scale is: 1" = 20'. However,  
diagram is reproduced @ 90% of  
scaled size.

# TRC/IU ON-SITE AIR BAG INVESTIGATION

TRC/IU CASE NO. 90-02

FLEET - PRIVATE VEHICLE  
LOCATION - ██████████, WISCONSIN

## ACCIDENT DATA

Location/Street: State Highway  
City/Township: ██████████, Wisconsin  
Area/Type: Rural/Agricultural  
Accident Date/Time: ██████████, 1990  
Investigating Police Agency: ██████████ County Sheriff Department  
Accident Type: Car / Tractor-Semitrailer - Head-on  
Occupant Injury Severity  
(air bag vehicle): Multiple fractures left ribs with  
flail chest (AIS-4)

## AMBIENT CONDITIONS

Light conditions: Daylight  
Weather Condition: Clear  
Precipitation: None  
Road Surface: Dry

## ROADWAY

	<u>Case Vehicle</u>	<u>Vehicle #2</u>
Location:	State highway	State highway
Number of Travel Lanes:	2-lanes, undivided	2-lanes, undivided
Width:	11.1 feet	11.1 feet
Surface Type:	Asphalt	Asphalt
Median:	None	None
Shoulders:	Gravel	Gravel
Vertical alignment:	Level	Level

**ROADWAY (CONT'D.)**

	<u>Case Vehicle</u>	<u>Vehicle #2</u>
Horizontal alignment:	Curve right	Curve left
Estimated Coefficient of Friction:	.68	.68
Traffic Density:	Light	Light

**TRAFFIC CONTROLS**

	<u>Case Vehicle</u>	<u>Vehicle #2</u>
Signals:	None	None
Signs:	Warning signs: Stop Ahead sign, Curve warning sign	None
Markings:	Double yellow center line and three sets of rumble strips	Double yellow center line
Speed Limit:	55 m.p.h.	55 m.p.h.

**VEHICLES**

	<u>Case Vehicle</u>	<u>Vehicle #2</u>
Year:	1990	1982
Make:	Dodge	Ford
Model:	Daytona	9000
Body Type:	2-door hatchback	Cab behind engine
V.I.N.:	1B3XG24K7LG-----	1FDYA90W3LV----- (Note: PAR reported VIN does not match vehicle.)
Color:	Red	Red and white
Mileage:	2,374	Unknown
Engine:	4 cylinder, 2.5 liter electronic fuel injection	Unknown

**VEHICLES (CONT'D.)**

	<u>Case Vehicle</u>	<u>Vehicle #2</u>
Transmission:	5-speed manual, console mounted	Unknown
Steering:	Power-assisted, rack-and-pinion	Power-assisted
Brakes:	Power-assisted front disc brakes, rear drum brakes	Air
Padding:	Dash, steering wheel, doors	None
Active Restraints:	Front: 3-point lap and shoulder; Rear: 3-point lap and shoulder	Lap belt
Passive Restraints:	Factory installed driver supplemental restraint system (air bag)	None
Defects:	None	None
Fleet:	Private vehicle	Logging business
Tow status:	Towed due to damage	Towed due to damage

**VEHICLE DAMAGE****Exterior****Deployment Impact**

	<u>Case Vehicle</u>	<u>Vehicle #2</u>
Event number:	1	1
Object Struck:	Vehicle #2	Case Vehicle
Damage location		
Damaged Plane:	Front	Front (damaged components removed from vehicle)
Vertical Location		
On Plane:	Bumper level	Bumper level
Direct Begins:	Front left corner	Front left corner and extends into left side frame, battery cage, and fuel tank
Length Direct:	50 inches	23 inches
Field L:	35.50 inches	Not applicable

VEHICLE DAMAGE (CONT'D.)Exterior (Cont'd.)Case VehicleVehicle #2Deployment Impact (Cont'd.)

C <sub>1</sub> :	41.50 inches	Not applicable
C <sub>2</sub> :	42.25 inches	Not applicable
C <sub>3</sub> :	48.25 inches	Not applicable
C <sub>4</sub> :	45.25 inches	Not applicable
C <sub>5</sub> :	40.25 inches	Not applicable
C <sub>6</sub> :	22.00 inches	Not applicable
D:	0 inches	Unknown
Maximum Crush:	48.25 inches	Unknown
Location:	C <sub>3</sub>	Unknown
CDC:	12-FDEW-5	11-FLEW-2 (TDC:)
Damaged Components:	Entire front end, windshield, roof, A-pillar, left door and toe pan, and driver's seat	Bumper, left frame, left battery cage, and fuel tank -- other components removed

Interior

Damaged Components:	Dash, driver's seat, steering wheel and column, toe pan, and floor	Unknown
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Other Evidence of Occupant Contact:	Indentations lower instrument panel, left and right of steering column; scuff on gear shift lever; blood and scuff on driver's visor, blood on air bag, left side seam on air bag torn (appears blown out)	Unknown
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Manual Restraint System Failures:	None	None
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Seat Performance Failures:	Seat track deformed on driver's seat, rear seat back locks released	None
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VEHICLE DAMAGE (CONT'D.)Exterior (Cont'd.)Case VehicleVehicle #2Repair

Cost Estimate:

Vehicle was a total  
loss

Unknown

VEHICLE VELOCITY ESTIMATESHighest Delta "V"Case VehicleVehicle #2

Reconstruction Program:

CRASHPC

Not applicable

Program Algorithm:

Damage only, immov-  
able barrier option

Not applicable

Travel Speed:\*

79 m.p.h.

10 m.p.h. (driver esti-  
mate)

Impact Speed:\*

56 m.p.h.

Unknown

Total Delta "V":

47.7 m.p.h.

Unknown

Longitudinal Delta "V":

+ 46.9 m.p.h.

Unknown

Lateral Delta "V":

- 8.3 m.p.h.

Unknown

- \* The reconstruction of the impact speed of the case vehicle is difficult for two reasons. First, the approach angles of the vehicles are near axial. Second, there is a large disparity in the mass ratio between the case vehicle and vehicle #2. Although CRASHPC is not designed to work on a collision involving a medium/heavy truck, it was decided to model the collision as a vehicle to barrier collision to determine how reasonable the results appeared. Therefore, the damage to the case vehicle is considered to have been sustained by an impact with a barrier. As a result of this simplification, the energy absorbed in the collision by vehicle #2 is unknown and thus ignored. The resulting speed estimates appear to be reasonable, but may be either high or low due to the unknowns inherent in this simplification. Witnesses passed by the vehicle prior to the accident estimated his travel speed at 90 m.p.h. The speed of the case vehicle is estimated in the following manner.

The CRASHPC program determined a Delta-V (47.7 m.p.h.) for the case vehicle. An estimated separation velocity (12.7 m.p.h.) for the case vehicle was determined using the accident scene and vehicle data. The angle between the two vectors is approximately 130 degrees. These values were vectorially added and resulted in an estimated impact speed of 56 m.p.h. for the case vehicle. The impact speed was combined with the pre-impact speed indicated by skidding (police measured 148 feet of pre-impact locked wheel skids) resulting in an estimated travel speed at time of brake application of 79 m.p.h.

**COLLISION SEQUENCE**

- Pre-Crash:** The case vehicle (Daytona) was traveling northeast in the eastbound lane of a two-lane undivided state road and was attempting to negotiate a right-hand curve and continue in its direction of travel. Vehicle #2 had just turned onto the state road and was traveling west in the westbound lane of the same roadway and was attempting to continue in its direction of travel. The driver of the case vehicle locked the brakes as he began to enter the right-hand curve. The case vehicle skidded straight ahead through the center line of the right-hand curve and entered the westbound travel lane prior to impact. The driver of vehicle #2 was accelerating after having completed his turn onto the state roadway and made no pre-crash avoidance maneuvers. Vehicle #2 continued straight ahead at a driver estimated speed of 10 m.p.h. prior to impact. The accident occurred in the westbound lane of the roadway.
- Crash:** The front of the case vehicle impacted the front left of vehicle #2 causing the driver side supplemental restraint system (air bag) to deploy. The case vehicle's forward momentum was halted; it was pushed rearward and rotated clockwise after impact coming to rest in the eastbound lane facing southeast. Vehicle #2 was pushed north a short distance during the impact, and after impact it continued westward coming to rest facing west partially on the north shoulder. Vehicle #2 spilled approximately fifty gallons of diesel fuel from the damaged left saddle tank. The saddle tank was displaced seven inches rearward.
- Post-Crash:**
- Occupants:** The driver of the case vehicle remained inside the vehicle at final rest and was found partially in the driver's seat leaning to the right with his feet and lower legs pinned between the lower left A-pillar/side panel and brake pedal. He was unable to exit the case vehicle because of his injuries.
- Police:** The investigating police agency was notified of the accident shortly after it occurred and arrived on-scene within twenty minutes. Traffic control procedures were established and emergency medical, fire, and towing services were called to assist.
- Rescue:** The ambulance service was located eleven miles from the scene of the accident. They responded immediately upon receiving the emergency call. The rescue crew removed the windshield and attached the "jaws-of-life" to the front of the car. A chain was passed through the windshield, secured around the steering column, and attached to the jaws-of-life. The steering column was then pulled up and away from the driver. The left and right doors were also forced fully open. The driver's feet and lower legs were freed, and he was extracted from the vehicle through the left door. A member of the rescue crew estimated it took twenty minutes to extract the driver from the vehicle. The

**COLLISION SEQUENCE (CONT'D.)**

driver was placed in an ambulance and transported to a nearby hospital where he was hospitalized. Estimated travel time to the hospital was thirty minutes.

Removal: Following the police investigation, the case vehicle and vehicle #2 were towed from the scene.

**HUMAN FACTORS/OCCUPANT DATA**

	<u>Case Vehicle</u>	<u>Vehicle #2</u>
Driver:	38 year-old male	32 year-old male
Height:	72 inches	Unknown
Weight:	230 pounds	Unknown
Occupation:	Computer systems analyst	Truck driver
Active Restraint System/Usage:	3-point lap and shoulder/not used	Lap belt/used
Usage Source:	Vehicle inspection	PAR
Eye glasses/contacts:	Glasses	Unknown
Vehicle Familiarity:	Three weeks	Unknown
Route Familiarity:	Once a month	Unknown
Trip Plan:	Unknown	Unknown
Manner of Leaving Scene:	Ambulance	Not transported
Type of Medical Treatment:	Admitted to hospital	Unknown

**DRIVER INJURIES**

<u>Injury</u>	<u>Severity (OIC/AIS)</u>	<u>Source</u>
Contusion left lung	CLCP-3	Steering wheel rim/hub
Fractures left ribs with flail chest	CLFS-4	Steering wheel rim/hub
Fracture distal left femur	TLFS-3	Left instrument panel (indirect injury)
Fracture-intertrochanteric right femur	TRFS-3	Left instrument panel (indirect injury)
Fracture right acetabulum	PRFS-2	Left instrument panel (indirect injury)

**DRIVER INJURIES (CONT'D.)**

<u>Injury</u>	<u>Severity (OIC/AIS)</u>	<u>Source</u>
Fracture left iliac wing	PLFS-2	Left instrument panel (indirect injury)
Fractures pubic bones	PAFS-2	Left instrument panel (indirect injury)
Fracture-compression T <sub>12</sub>	BSFS-2	Steering wheel rim/hub (indirect injury)
Fracture & dislocation right 2nd metatarsal-head	QRZJ-2	Toe pan
Fracture & dislocation right 3rd metatarsal-head	QRZJ-2	Toe pan
Fracture & dislocation right 4th metatarsal-head	QRZJ-2	Toe pan
Fracture & dislocation right 2nd metatarsal-distal	QRZJ-2	Toe pan
Fracture right distal 3rd metatarsal	QRFS-2	Toe pan
Fracture right distal 4th metatarsal	QRFS-2	Toe pan
Dislocation right 5th metatarsal	QRDJ-1	Toe pan
Fracture left head 2nd metatarsal	QLFS-2	Toe pan
Fracture left head 3rd metatarsal	QLFS-2	Toe pan
Fracture left head 4th metatarsal	QLFS-2	Toe pan
Laceration left forehead	FSLI-1	Upper left A-pillar, windshield header, and left sunvisor
Multiple head trauma	HUUU-7	Upper left A-pillar, windshield header, and left sunvisor

**DRIVER KINEMATICS**

The occupant contact evidence present in the vehicle indicates that the driver was sitting in a normal position just prior to the impact. The driver locked the vehicle's brakes, but it is unknown if braking was accomplished by the driver's left or right foot, or both feet. Because the brakes were locked, it is likely that the driver was grasping the steering wheel with both hands.

During impact the unrestrained driver moved primarily straight forward. The driver's torso contacted the deployed air bag rupturing it along its left seam. The driver's chest then contacted the steering wheel rim/hub. The driver's head contacted the upper A-pillar, windshield header, and left sunvisor. The driver's left knee contacted the instrument panel left of the steering wheel, and his right knee contacted the instrument panel right of the steering column. The driver's feet and legs were thrust into the toe pan.

The driver was found by the ambulance crew unrestrained, partially in the driver's seat, and leaning to the right of the steering wheel. His feet and lower legs were pinned between the left lower A-pillar/side panel and the brake pedal.

#### AIR BAG SYSTEM

Deployment Threshold:	14 m.p.h. (equivalent barrier impact speed)
Airbag Diameter (seam-to-seam, deflated):	24 inches
Number of Vent Holes:	Two
Vent Hole Diameter:	Unknown
Vent Hole Clock Positions:	3 o'clock and 9 o'clock
Generant Residue:	None

The air bag saved this person's life. The rupturing of the air bag appears to have resulted from occupant loading as the bag absorbed sufficient energy to keep the pressure on the driver's vital organs within this occupant's survival tolerance.

The possibility that the damage to the air bag resulted from some mechanical source was investigated and ruled out. There was no evidence that damaged or intruding components of the vehicle had interacted with the air bag. An interview with a member of the rescue crew indicated that none of the rescue operations was a possible source of the damage.

Two possible explanations for the rupture of the air bag are as follows. First, due to the proximity of the vent holes to the hub of the steering wheel, one or both of the vent holes were momentarily blocked or partially blocked resulting in the rupture. Second, the impact of the unrestrained 230 pound driver was so severe that the gas could not escape the deployed air bag rapidly enough resulting in a rupture.

**SELECTED PRINTS**



# 01 -- , 1990  
 Wisconsin  
 TRC/IU: 90-02, Task: 0069  
 Daytona frontal view



# 02 -- , 1990  
 Wisconsin  
 TRC/IU: 90-02, Task: 0069  
 Front left frontside view





# 03 -- , 1990  
 , Wisconsin  
 TRC/IU: 90-02, Task: 0069  
 Full left side view



# 04 -- , 1990  
 , Wisconsin  
 TRC/IU: 90-02, Task: 0069  
 Full right side view





# 05 -- 1990  
Wisconsin  
TRC/IU: 90-02, Task: 0069  
Frontal sky view of damage



# 06 -- 1990  
Wisconsin  
TRC/IU: 90-02, Task: 0069  
Right sky view of damage





# 07 -- , 1990  
 , Wisconsin  
 TRC/IU: 90-02, Task: 0069  
 Across front from left side



# 08 -- 1990  
 , Wisconsin  
 TRC/IU: 90-02, Task: 0069  
 Driver area from left side



# 09 -- 1990  
Wisconsin  
TRC/IU: 90-02, Task: 0069  
Closeup of ruptured air bag



# 10 -- 1990  
Wisconsin  
TRC/IU: 90-02, Task: 0069  
Driver area from right side





# 11 -- 1990  
 , Wisconsin  
 TRC/IU: 90-02, Task: 0069  
 Tractor front right view



# 12 -- , 1990  
 Wisconsin  
 TRC/IU: 90-02, Task: 0069  
 Tractor front left view





# 13 -- 1990  
Wisconsin  
TRC/IU: 90-02, Task: 0069  
Left side tractor damage



# 14 1990  
Wisconsin  
TRC/IU: 90-02, Task: 0069  
Left side fuel tank area



# 15 -- 1990  
Wisconsin  
TRC/IU: 90-02, Task: 0069  
Closeup left fuel tank



# 16 -- 1990  
Wisconsin  
TRC/IU: 90-02, Task: 0069  
Left side bumper damage

**SLIDE INDEX**



## SLIDE INDEX

Slide No.	Vehicle No.	Description	Direction
1	CV	Looking back in direction of travel	Southwest
2-9	CV	Approach to beginning of skidmarks	Northeast
10-13	CV	Pre-impact skid marks	Northeast
14	CV	Area of impact between Case Vehicle and Vehicle #2	Northeast
15	CV	Area of maximum engagement	Northeast
16-20	CV	Case Vehicle rebounds and rotates clockwise to final rest	Southwest
21	CV	Case Vehicle at final rest	Southwest
22	CV	Overview of Case Vehicle at final rest looking through area of impact	Southwest
23	CV	Case Vehicle at final rest	East
24-25	CV	Looking back at pre-impact skid marks	Southwest
26	#2	Looking back at direction of travel prior to turning onto accident involved roadway	North
27-28	#2	Approach to intersection	South
29-30	#2	Turning onto accident involved roadway	Southwest
31	#2	Approach to impact	West
32	#2	Area of impact	West
33-34	#2	Area of impact to area of final rest	West
35	#2	Looking back at approach to impact from area of final rest	East
36-43	CV	Initial status in tow lot (counter-clockwise)	
44-55	CV	Damage documentation with contour gauge (frontal baseline set to overall length)	
56-63	CV	Left front door, sill, hinge, latch, and striker damage	



**SLIDE INDEX (Continued)**

<b>Slide No.</b>	<b>Vehicle No.</b>	<b>Description</b>	<b>Direction</b>
64-68	CV	Right front door damage from extraction activities	
69-78	CV	Interior and suspected occupant contact points (marked with yellow incremented tape)	
79-84	CV	Driver's air bag and damage to air bag	
85-90	CV	Steering wheel and steering column	
91-96	CV	Driver's seat	
97-99	CV	Rear left seat latch and striker	
100	CV	Front right seat	
101-103	CV	Driver's lap/shoulder belt locked in retracted position and tongue of lap/shoulder belt	
104-109	#2	Exterior of Vehicle #2 (counterclockwise)	
110-113	#2	Damage to front bumper	
114-120	#2	Damage to left fuel tank, battery cage, and frame	
121	#2	Loose components	
122-124	#2	Interior of Vehicle #2	



IN 9002 #1



IN 9002 #2



IN 9002 #3



IN 9002 #4



IN 9002 #5



IN 9002 #6



IN 9002 #7





IN 9002 #8



IN 9002 #9



IN 9002 #10



IN 9002 #11



IN 9002 #12



IN9002 #13



IN 9002 #14



IN 9002 #15





IN 9002 #16



IN 9002 #17



IN 9002 #18



IN 9002 #19



IN9002 #20



IN 9002 #21



IN 9002 #22



IN 9002 #23





IN 9002 #24



IN 9002 #25



IN 9002 #28



IN 9002 #27



IN 9002 #28



IN 9002 #29

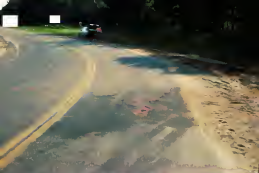


IN 9002 #30



IN 9002 #31





IN 9002 #32



IN 9002 #33



IN 9002 #34



IN 9002 #35



IN 9002 #36



IN 9002 #37



IN 9002 #36



IN 9002 #39





IN9002 #40



IN 9002 #41



IN 9002 #42



IN 9002 #43



IN 9002 #44  
Best Available



IN 9002 #45  
Best Available



IN 9002 #46  
Best Available



IN 9002 #47  
Best Available





**IN 9002 #48**  
**Best Available**



IN 9002 #49  
Best Available



IN 9002 #50  
Best Available



IN 9002 #51  
Best Available



IN 9002 #52  
Best Available



IN 9002 #53  
Best Available



IN 9002 #54  
Best Available



IN 9002 #55  
Best Available





IN 9002 #56



**IN 9002 #57**  
**Best Available**



IN 9002 #58



**IN 9002 #59**  
**Best Available**



IN 8002 #60



IN 9002 #61



IN 9002 #62



IN 9002 #63





IN 9002 #84



IN 8002 #65



IN 9002 #66



IN 9002 #67



IN 9002 #68



IN 9002 #69  
Best Available



IN 9002 #70  
Best Available



IN 9002 #71  
Best Available





IN 9002 #72  
Best Available



IN 9002 #73  
Best Available



IN 9002 #74  
Best Available



IN 9002 #75  
Best Available



IN 9002 #76  
Best Available



IN 9002 #77  
Best Available



IN 9002 #78



IN 9002 #79





IN 9002 #80  
Best Available



IN9002 #81  
Best Available



IN 9002 #82



IN 9002 #83  
Best Available



IN 9002 #84



IN 9002 #85



IN 9002 #86  
Best Available



IN 9002 #87





IN 9002 #88



IN 9002 #89



IN 9002 #90



IN 9002 #91  
Best Available



IN 9002 #92  
Best Available



IN 9002 #93  
Best Available



IN 9002 #94  
Best Available



IN 9002 #95  
Best Available





IN9002 #96



IN 9002 #97



IN 9002 #98



IN 9002 #99



IN9002 #100



IN9002 #101



IN 9002 #102



IN 9002 #103





IN 9002 #104



IN9002 #105



IN 9002 #106



IN 9002 #107



IN 9002 #108



IN9002 #109



IN9002 #110



IN9002 #111





IN 9002 #112  
Best Available



IN 9002 #113



IN 9002 #114



IN9002 #115



IN 9002 #116  
Best Available



IN 9002 #117



IN 9002 #118



IN 9002 #119





IN9002 #120



IN9002 #121



IN 9002 #122



IN 9002 #123



IN 9002 #124

**NASS Accident Collision Measurement Table**



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

## ACCIDENT COLLISION MEASUREMENT TABLE

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

Primary Sampling Unit Number <u>10</u>		Case Number - Stratum <u>90-02</u>															
ACCIDENT COLLISION DIAGRAM		<p><b>CRASH DATA</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>VEH. #1</td> <td>VEH. #2</td> <td>VEH. #3</td> </tr> <tr> <td colspan="3">Heading Angle <u>50° 260°</u></td> </tr> <tr> <td colspan="3">Surface Type <u>ASPHALT ASPHALT</u></td> </tr> <tr> <td colspan="3">Surface Condition <u>Dry Dry</u></td> </tr> <tr> <td colspan="3">Grade Measurement (v/h) <u>2/4 2/4</u></td> </tr> </table>	VEH. #1	VEH. #2	VEH. #3	Heading Angle <u>50° 260°</u>			Surface Type <u>ASPHALT ASPHALT</u>			Surface Condition <u>Dry Dry</u>			Grade Measurement (v/h) <u>2/4 2/4</u>		
VEH. #1	VEH. #2		VEH. #3														
Heading Angle <u>50° 260°</u>																	
Surface Type <u>ASPHALT ASPHALT</u>																	
Surface Condition <u>Dry Dry</u>																	
Grade Measurement (v/h) <u>2/4 2/4</u>																	
<p><b>LEVEL I</b> <b>PHYSICAL EVIDENCE ABSENT</b></p> <p>To be accomplished when there is no physical evidence present at the scene:</p> <ul style="list-style-type: none"> <li>*approximate vehicle orientation at impact and final rest</li> <li>*applicable road/roadway delineation (e.g., curve/edge lines, lane markings, median markings, pavement markings, etc.)</li> <li>*applicable traffic controls (e.g., speed limit)</li> <li>*north arrow placed on diagram</li> <li>*sketch required</li> </ul>	<p><b>LEVEL II (Cont'd)</b> accomplished when physical evidence is present:</p> <ul style="list-style-type: none"> <li>*document reference point and reference line relative to physical features present at the scene</li> <li>*scaled documentation of all accident induced physical evidence</li> <li>*scaled documentation of all roadside objects contacted</li> <li>*roadway surface type and condition of applicable roadway</li> <li>*grade measurements for all applicable roadways</li> <li>*scaled representations of the vehicle(s) at pre-impact, impact, and final rest based upon either:               <ul style="list-style-type: none"> <li>a) physical evidence, or</li> <li>b) reconstructed accident dynamics</li> </ul> </li> </ul>																
<p><b>LEVEL II</b> <b>PHYSICAL EVIDENCE PRESENT</b></p> <p>In addition to the Level I tests noted above, the following must be</p>																	
Reference Point: <u>BURIED CABLE BOX</u> <u>S. SIDE OF HIGHWAY</u>		Reference Line: <u>PROLONGATION OF</u> <u>OF HIGHWAY</u>															
Item	Distance and Direction from Reference Point	Distance and Direction from Reference Line															
RP	0	46' 11" S															
BRF	30.5 E	10.4 S															
BLF	42.1 E	6' S															
B SCUFF	115 E	14.5 S															
MP SCUFF	114 E	21.1 S															
Gouge 1	114 E	8' S															
END SCUFF	110 E	20' S															
Gouge 2	126 E	10.2 S															
Gouge 3	126 E	12.4 S															
Gouge 4	128 E	12.6 S															
Gouge 5	129 E	12.2 S															
Gouge 6	129 E	12.8 S															





**Appendix A:**

**Police Accident Report**

Wisconsin Motor Vehicle  
Accident Report

- SECTION -

ON		STH		AT		133		STH		FROM		W		Hwy No.		and Street Name		Accident Location		1. Public highway, intersection		3. Parking lot		2. Public highway, non-intersection		4. Private property or road		TYPE OF ACCIDENT		1. Motor veh. in operation		5. Deer		10. Maintenance veh. or equip.		2. Fixed object		6. Other animal		11. Farm equip.		3. Object on road		7. Overturning		12. Railway train		4. Parked motor vehicle		8. Pedestrian		13. Other		9. Bicyclist		1	
Reportable Accident Y/N		Y		Government Property Y/N		N		Photos Taken Y/N		Y		Material Spillage Y/N		Y		Trailer or Towed Y/N		Y		Fire Y/N		Y		Witness Y/N		Y		Construction Zone Y/N		N		Hit & Run Y/N		N																							
UNIT 1		Unit Type		1		Total Number of Occupants		1		Direction of Travel Before Accident		E		Posted Speed		55		UNIT 2		Unit Type		2		Total Number of Occupants		1		Direction of Travel Before Accident		W		Posted Speed		55																							
Operator Name		First		M.I.		Last		Street Address		City		and State		WI		Zip		(Area) Phone No.		38		Date of Birth		Sex		LIC. TYPE		Regular		Chauffeur		School Bus		R																							
Drivers License - No.		WI		92		State		WI		Exp. Yr.		92		Vehicle		First		M.I.		Last		Owner/Lessor		operator		Street Address		City		and State		WI		Zip																							
Year		90		Make of Veh.		Dodge		Model		Daytona		Body Style		200		Color		Red		Vehicle ID Number		1B3XG24K7LG		License Plate No.		WI		90		Plate Type		State		WI		Exp. Yr.		90																			
Liability Insurance Company Name		Operator		Policy Holder's Name		Operator		Policy No.		Citation No.		Violation - Statute No.		ABV. Code		Citation No.		Violation - Statute No.		ABV. Code		Citation No.		Violation - Statute No.		ABV. Code		Citation No.		Violation - Statute No.		ABV. Code		Citation No.		Violation - Statute No.		ABV. Code																			
SAFETY EQUIPMENT		1. Shoulder Belt		5. Helmet		2. Lap Belt		6. Eye Protect		3. Child Res		7. Helmet & Eye		4. Air Bag		8. None		ENTER ONE NUMBER FOR EACH OCCUPANT PER UNIT		UNIT 1		UNIT 2		UNIT 1		UNIT 2		UNIT 1		UNIT 2		UNIT 1		UNIT 2		UNIT 1		UNIT 2																			
Injured Person Unit No.		1		Name		First		M.I.		Last		Address		City and State		Zip		Date of Birth		Sex		Severity K-A-B-C		Medical Transfer Y/N		SEAT Position		A		A		A		Y		1																					
Injured Person Unit No.		2		Name		First		M.I.		Last		Address		City and State		Zip		Date of Birth		Sex		Severity K-A-B-C		Medical Transfer Y/N		SEAT Position		C		N		N		1																							
Injured Person Unit No.		3		Name		First		M.I.		Last		Address		City and State		Zip		Date of Birth		Sex		Severity K-A-B-C		Medical Transfer Y/N		SEAT Position																															
Fixed Objects Struck		1. Traffic sign		2. Traffic sign post		3. Tree/shrubbery		4. Light support/utility pole		5. Fence		6. Guard rail/concrete barrier		7. Culvert/drainage structure		8. Embankment		9. Building/wall		10. Bridge support		11. Construction barricade		12. Impact attenuator		13. Mailbox		14. Other		Property Owner		First		M.I.		Last		Street Address		(Area) Phone No.		City		and State		WI		Zip									

Location

Date

Police No.

Accident No.

RECEIVED: 1997-05-27

17.4 FT.



NOT TO SCALE

Narrative: Vehicle NO 1 WAS E/B ON [REDACTED] Approaching Intersection of [REDACTED] + [REDACTED] =  
Vehicle failed to negotiate the curve AND crossed into the West Bound Lane. Vehicle #1  
then struck a Semi-Tractor that had just turned onto SR [REDACTED] AND WAS W/B. Vehicle #1  
then came to rest in the E/B Lane.  
Semi. had approx 50 Gallons of Diesel Fuel spilled on Gravel shoulder.

2 2 ERLK

TRL 5 90

Witness Name First [REDACTED] M.I. [REDACTED] Last [REDACTED]  
 Street Address [REDACTED] (Area) Phone No. [REDACTED]  
 City and State [REDACTED] Zip [REDACTED]

MANNER OF COLLISION		1 Head On	2 Rear End	3 Side Swive Same	4 Side Swive Opposite
		→ ←	→ →	→	↔
5 Off Rd Left		6 Off Rd Right		7 Angle	8 Left Turn
		↖	↗	↗	↖
				9 Other	
				↑	←

UNIT 1		Circle Area Of Vehicle Damage	
Overturn: 14		Multiple: 15 Undercarriage: 16	
Damage 1. Scratched		Driveable	
Severity 2. Dented			
Severity 3. Structural		Y/N	
Vehicle Removed By:			

UNIT 2		Circle Area Of Vehicle Damage	
Overturn: 14		Multiple: 15 Undercarriage: 16	
Damage 1. Scratched		Driveable	
Severity 2. Dented			
Severity 3. Structural		Y/N	
Vehicle Removed By:			

## OFFICER'S OPINION OF POSSIBLE CONTRIBUTING CIRCUMSTANCES

### Driver Factors

1. Speed too fast/careless
2. Fail to Yield RT-of-way
3. Inattentive driving
4. Following too close
5. Improper turn
6. Left of center
7. Disregarded signals
8. Disregarded stop sign
9. Improper overtaking
10. Unsafe backing
11. Failure to have control
12. Driver Condition
13. Other

UNIT 1	UNIT 1	UNIT 1
/	//	

UNIT 2	UNIT 2	UNIT 2

### Vehicle Factors

1. Brake system
2. Tires
3. Steering system
4. Turn signals
5. Head lamps
6. Stop lamps
7. Tail lamps
8. Disabled in prior acc.
9. Other disabled
10. Mirrors
11. Suspension system
12. Other

UNIT 1	UNIT 1	UNIT 1

UNIT 2	UNIT 2	UNIT 2

### Highway Factors

1. Snow or ice or Wet
2. Narrow shoulder
3. Low shoulder
4. Soft shoulder
5. Rough pavement
6. Debris from prior acc.
7. Other debris
8. Sign obscured or missing
9. Narrow bridge
10. Construction zone
11. Visibility obscured
12. Other

UNIT 1	UNIT 1	UNIT 1

UNIT 2	UNIT 2	UNIT 2

Print Name	First	Middle	Last
[REDACTED]			
Street Address			(Area) Phone No.
[REDACTED]			[REDACTED]
City	and	State	Zip
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Date Notified	Time Notified	Time Arrived	Officer's No.
90			
Agency No.	Enforcement Agency		Date of Report
		ED	90

Case No. [REDACTED]

Case Name [REDACTED]

## FOLLOW-UP REPORT

[REDACTED] pg 1

[REDACTED]  
Location: [REDACTED]

On [REDACTED] 1990, at approximately [REDACTED] PM, I was called out to an injury accident located on [REDACTED], approximately one block west of [REDACTED]. Upon my arrival at this accident, I observed the two vehicles involved, being an unloaded articulating semi pulp truck and a 2-door hatchback Dodge Daytona. As depicted in the scale diagram included in this report, the Dodge Daytona was sitting in the eastbound lane of traffic on [REDACTED] and the semi tractor-trailer was in the westbound lane of traffic, facing basically west. Investigating officers who were already at the scene, including Sgt. [REDACTED] and Deputy [REDACTED] pointed out to me how they felt the accident had taken place, as well as some of the evidence which was left at the scene. This evidence included very obvious road gouges located in the westbound lane near the semi tractor-trailer, indicating the point of maximum engagement between the two vehicles. Also present were skid marks, which were a result of the operator of the Dodge Daytona braking before colliding with the semi. The skid marks measured 148 feet in length and were basically in the eastbound lane of travel before they crossed over the double yellow center line and into the westbound path of the semi tractor-trailer.

The damage to the Dodge Daytona was very extensive. The entire front end of this vehicle had been basically crushed to the fire wall, with the heaviest damage located at the left front area of the vehicle. Extensive induced damage was also present to the right side of the vehicle, causing the right front of the vehicle to bow inward. It also appeared as though the thrust direction of the impact was at approximately 0 degrees, being on the x axis of the vehicle.

The damage to the Ford conventional semi tractor was located in the left front tire assembly area. It appeared as though

Signed [REDACTED]

(Investigating Officer Must Sign)

This form is used by Investigators & Deputies assigned to a case:

- |   |   |
|---|---|
| 1. For additional facts, confession, evidence, etc. | 3. To report progress                                     |
| 2. When significant developments occur              | 4. When Commanding Officer Requests exact status of case. |

Case No. [REDACTED]

Case Name [REDACTED]

FOLLOW-UP REPORT  
Deputy [REDACTED]

pg 2

the car made contact with the left front tire of the semi, breaking the axle and spring assembly loose from the frame and shoving this entire assembly rearward. The damage was extensive to the point that the left fuel tank, located behind the cab, was also ruptured, as well as numerous other items on the undercarriage of the vehicle being destroyed. The thrust direction of this vehicle appeared to be approximately 350 degrees as related to a 360 degree azimuth, with 0 degrees being the exact front of the vehicle.

Deputy [REDACTED] at this time had also advised me that he had spoken with more than one witness who had stopped at the scene and informed him that they were eastbound on [REDACTED] when the Dodge Daytona victim vehicle had passed them some time before this collision occurred. These witnesses estimated the speed of this Daytona at approximately 90 mph. From the evidence I had observed so far on the scene, it was obvious to me that the vehicle was indeed traveling at a very high rate of speed.

I also had occasion to speak with the driver of the semi tractor-trailer, who was identified as [REDACTED], [REDACTED] STH [REDACTED] Mr. [REDACTED] stated that he had just turned onto SIH [REDACTED] from [REDACTED] and was accelerating and shifting into higher gears, when the collision took place. [REDACTED] estimated his speed at approximately 10 mph when the vehicle struck the left front of his truck. He stated that just as he was beginning to round the curve on [REDACTED] he only saw the small red vehicle for a split second before it made contact with his truck. He said that he felt the truck jump to the right quickly and that it continued to go basically in a straight line until it came to a stop on its own.

At this point it should be noted that the semi truck and trailer traveled a distance of 33-1/2 feet after the impact occurred, with only the left front tire of this vehicle being locked. There was no evidence of any other braking on the

Signed [REDACTED]

(Investigating Officer Must Sign)

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2. When significant developments occur
3. To report progress
4. When Commanding Officer Requests exact status of case.

Case No. [REDACTED]

Case Name [REDACTED]

## FOLLOW-UP REPORT

Deputy [REDACTED]  
[REDACTED] pg 3

semi tractor or trailer after the collision occurred. [REDACTED] also observed a large ball of fire erupt immediately when the collision occurred, as did other witnesses. This fire apparently though went out on its own rather quickly.

After gathering all of the necessary information at the scene, including measurements of the highway and intersection, to construct a scale diagram, I began reviewing different methods available in which to calculate an initial velocity for the striking vehicle, being the Dodge Daytona. I ran into difficulties while doing this due to a couple of variables involved in this accident. The first of these variables is that the weight difference between the two vehicles involved is approximately an 11 to 1 ratio, being that the tractor-trailer combination weighs 35,000 lbs., while the vehicle with its passenger weighs approximately 2,998 lbs. This, I felt, eliminated the possibility of constructing a geometric parallelogram and reaching an initial velocity with the use of conservation of momentum formulas. Another missing link with this method was that the Daytona had basically bounced off of the semi tractor before coming to a stop, which means a coefficient of restitution would have to be known for the car, meaning the energy dissipated in bouncing off of the truck. While confronted with these problems, I contacted a representative from the [REDACTED] Traffic Institute in [REDACTED] Illinois, to get some assistance in how to approach the reconstruction of this accident. It was their opinion that due to the nature of the accident and the weight difference of the vehicles, that again momentum could not be used in this situation, and that a true initial velocity of the Daytona probably could in no way be reached in this situation. At this point it was decided that I would calculate what would be a minimum speed that the Daytona was traveling at the point that it first applied the brakes. This would be done through energy equations.

Just prior to the Dodge Daytona striking the semi, it

Signed [REDACTED]

(Investigating Officer Must Sign)

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3. To report progress
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Case No. \_\_\_\_\_

Case Name \_\_\_\_\_

[REDACTED]

FOLLOW-UP REPORT  
Deputy [REDACTED]

pg 4

possessed a particular amount of kinetic energy. As the driver applied the brakes of his vehicle and skidded across STH [REDACTED], some of the kinetic energy was dissipated and transferred to another form of energy. When the vehicle then struck the semi tractor, yet more of the kinetic energy which it still possessed was dissipated in doing damage or crushing the front of the car. The vehicle still possessed energy although, as it then skidded a distance from the tractor-trailer after maximum engagement. It must be realized that energy was also dissipated while doing damage to the semi tractor, as well as moving the semi tractor to the right a distance, which is unknown in this investigation. When the Dodge Daytona finally did come to rest though, all of the initial kinetic energy which it possessed had been transformed into other forms and its kinetic energy now equaled zero. By determining how much energy was dissipated in each stage or each step of this collision, it could be determined what the initial velocity of the Daytona was at various stages of the accident. Although in this case I do not feel that the energy in each stage can be calculated due to unknown information in some areas; however it can be determined how much energy was dissipated while the vehicle was skidding, as well as how much energy was used in doing damage to the Daytona itself.

The kinetic energy dissipated by the Dodge Daytona while skidding on STH [REDACTED] can be determined by a simple kinetic energy formula, which states that:

$$W = wfd$$

When inserting the known data from the accident into this formula, it is determined that approximately 275,096 foot pounds of energy was dissipated while the Daytona skidded for

Signed \_\_\_\_\_

(Investigating Officer Must Sign)

This form is used by Investigators & Deputies assigned to a case:

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. For additional facts, confession, evidence, etc.</li> <li>2. When significant developments occur</li> </ol> | <ol style="list-style-type: none"> <li>3. To report progress</li> <li>4. When Commanding Officer Requests exact status of case.</li> </ol> |
|---|--|

Case No. \_\_\_\_\_

Case Name \_\_\_\_\_

## FOLLOW-UP REPORT

Deputy \_\_\_\_\_

pg 5

148 feet across the traveled asphalt surface. The work in this calculation is as shown:

$$W = wfd$$

$$W = (2998)(.62)(148)$$

$$W = 275,096 \text{ ft. lbs.}$$

The second major stage in this accident is the damage which was done to the Daytona as it collided with the semi. This damage can be determined from the "dynamic crush," which is the permanent plastic deformation of the front of the vehicle caused at maximum engagement. This information is taken from a publication by \_\_\_\_\_

\_\_\_\_\_ Oregon. In this publication, it states that a 1984 Dodge Daytona 2-door, similar to the vehicle involved in this accident, was tested with a fixed barrier impact. The data gathered from this barrier impact test indicates that the linear spring stiffness of this particular vehicle, which is measured as crush resistance per inch of damage width in  $\text{lb/in}^2$  (pounds per inch squared). The linear spring stiffness as described by capital letter B indicates that  $B = 77.3 \text{ lb/in}^2$  which is the stiffness coefficient of this vehicle. This information is then combined with the damage profile of the accident vehicle, which measured a dynamic crush of 36.3 inches. The kinetic energy therefore dissipated in doing damage to the vehicle is calculated as follows:

$$B = 77.3 \text{ lb/in}^2$$

$$W = 77.3 \text{ lb/in}^2 (36.3)$$

$$W = 216,903 \text{ ft. lbs.}$$

The rest of the energy which was dissipated throughout the accident cannot be determined at this point as there are too many missing figures, such as the coefficient of restitution of the car, the dynamic crush stiffness coefficients of the semi tractor-trailer, as well as the distance in which the tractor was pushed to the right after impact. Therefore the

Signed \_\_\_\_\_

(Investigating Officer Must Sign)

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4. When Commanding Officer Requests exact status of case.



Case No.

Case Name

## FOLLOW-UP REPORT

Deputy [REDACTED]

pg 6

only energy which can be totaled is that which has been calculated thus far and can be totaled and calculated as follows. It should be noted however that the speed in which this calculation determines is a minimum speed that the vehicle had to be traveling at the point that the brakes were first applied.

$$E_T = E_1 + E_2$$

$$E_T = 491,999 \text{ ft. lbs.}$$

$$V_i = \sqrt{\frac{2g(E_T)}{w}}$$

$$V_i = \sqrt{\frac{2(32.2)(491,999)}{2998}}$$

$$V_i = \sqrt{10568.62}$$

$$V_i = 102.8 \text{ fps (feet per second)}$$

It can therefore be concluded that the Dodge Daytona was traveling somewhere in excess of 102.8 feet per second at the point where the driver initially applied the brakes prior to collision. This figure in feet per second is equivalent to approximately 70 miles per hour.

Upon examination of the highway area prior to the point of impact, it was also found that the driver of the Daytona had very adequate warning signals that both the curve and the stop ahead were approaching. These warning devices were in

Signed [REDACTED]

(Investigating Officer Must Sign)

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3. To report progress
4. When Commanding Officer Requests exact status of case.

Case No. \_\_\_\_\_

Case Name \_\_\_\_\_

## FOLLOW-UP REPORT

Deputy \_\_\_\_\_  
\_\_\_\_\_ pg 7

the form of three sets of "chatter strips" located in the eastbound lane on \_\_\_\_\_ which were preceded by two large "Stop Ahead" signs, which had been placed on both sides of the highway. This area was also marked by a No Passing Zone, which was indicated by both a solid yellow stripe, as well as a No Passing sign and three different signs indicating that the junction of \_\_\_\_\_ and \_\_\_\_\_ was approaching, as well as a sign indicating that a turn was approaching for either \_\_\_\_\_ or \_\_\_\_\_. In addition to these warning signs and signals, a yellow arrow is placed on the outside of the curve, which is very visible to a driver in the eastbound lane of \_\_\_\_\_. This particular arrow points to the right, indicating that the highway does indeed make a gradual curve to the right.

End of report.

Signed \_\_\_\_\_

(Investigating Officer Must Sign)

This form is used by Investigators &amp; Deputies assigned to a case:

1. For additional facts, confession, evidence, etc.
2. When significant developments occur
3. To report progress
4. When Commanding Officer Requests exact status of case.

# 1990 DAYTONA

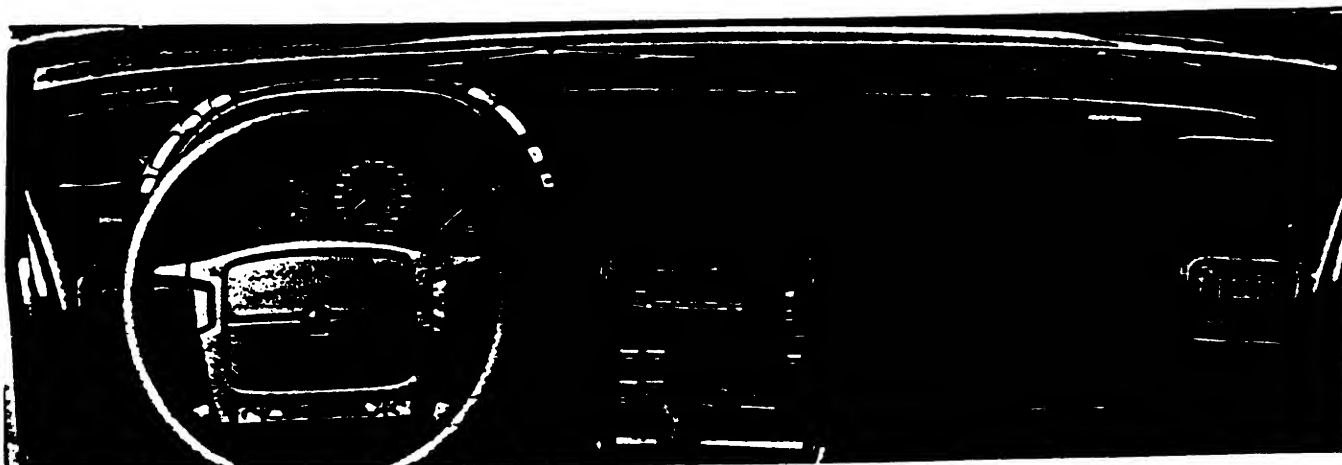
## BASIC SPECIFICATIONS AND INTERIOR DIMENSIONS

BASIC SPECIFICATIONS <sup>(1)</sup>	3-DOOR LIFTBACK
Wheelbase	97.0"
Overall Length	179.2"/178.4" <sup>(2)</sup>
Overall Width	69.3"/69.8" <sup>(2)</sup>
Overall Height	50.1"/50.7" <sup>(2)</sup>
Track—Front	57.5"
—Rear	57.6"
Turning Diameter—Curb-to-Curb Daytona	34.0"/38.0" <sup>(3)</sup> /40.5" <sup>(4)</sup>
Daytona ES, ES Turbo, Shelby	38.0"
Curb Weight (Std. engine—lbs estimated) Daytona	2,798
Daytona ES	2,873
Daytona ES Turbo	3,004
Daytona Shelby	3,030

<sup>(1)</sup>Preliminary. <sup>(2)</sup>Second number is for Shelby. <sup>(3)</sup>Second number is for Daytona with AGB Package. <sup>(4)</sup>Daytona with AGS Package.

INTERIOR DIMENSIONS <sup>(1)</sup>	3-DOOR LIFTBACK
Headroom—Front	37.1"
—Rear	34.3"
Legroom—Front (Maximum)	42.4"
—Rear	30.0"
Hiproom—Front	54.4"
—Rear	47.9"
Shoulder Room—Front	55.9"
—Rear	53.6"
Cargo Capacity, Cubic Feet (Estimated) (With rear seat backs up)	17.1
(With rear seat backs down)	33.0

<sup>(1)</sup>Preliminary.



Daytona instrument panel

**Appendix B:**

**CRASHPC Program Results**



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

## CRASHPC PROGRAM SUMMARY

Identifying Title <u>10</u>		<u>90-02</u> Case No. - Stratum		<u>01</u> Accident Event Sequence No.		<del>XXXXXXXXXX</del> <u>90</u> Date (month, day, year) of Run	
Primary Sampling Unit							

CRASHPC Vehicle Identification							
Vehicle 1	<u>1990</u>	<u>Dodge</u>	<u>DAYTONA</u>	<u>1</u>			
Vehicle 2	<u>1982</u>	<u>FORD</u>	<u>9000 TRACTOR (TREATED AS BARRIER)</u>				
	Year	Make	Model	NASS Veh. No.			

GENERAL INFORMATION							
VEHICLE 1				VEHICLE 2			
Size				Size			
Weight	<u>2751</u>	+	<u>230</u>	+		+	<u>11</u>
	Curb	Occupant(s)	Cargo		Curb	Occupant(s)	Cargo
CDC	<u>12 F D E W S</u>			CDC			
PDOF	<u>+ 10</u>			PDOF			
Stiffness	<u>9</u>			Stiffness	<u>11</u>		

SCENE INFORMATION							
Rest and Impact Positions [ ] No, Go To Damage Information [ ] Yes							
VEHICLE 1				VEHICLE 2			
Rest Position				Rest Position			
X				X			
Y				Y			
PSI				PSI			
Impact Position				Impact Position			
X				X			
Y				Y			
PSI				PSI			
Slip Angle				Slip Angle			

VEHICLE MOTION							
Sustained Contact [ ] No [ ] Yes							
VEHICLE 1				VEHICLE 2			
Skidding				Skidding			
				[ ] No [ ] Yes			
Skidding Stop Before Rest				Skidding Stop Before Rest			
				[ ] No [ ] Yes			
End-of-Skidding Position				End-of-Skidding Position			
X				X			
Y				Y			
PSI				PSI			
Curved Path				Curved Path			
				[ ] No [ ] Yes			
Point on Path				Point on Path			
X				X			
Y				Y			
Rotation Direction				Rotation Direction			
				[ ] None [ ] CW [ ] CCW			
Rotation > 360°				Rotation > 360°			
				[ ] No [ ] Yes			

## National Accident Sampling System – Crashworthiness Data System: CrashPC Program Summary

FRICTION INFORMATION	TRAJECTORY INFORMATION
Coefficient of Friction                      . ____ ____ Rolling Resistance Option                      ____  Vehicle 1 Rolling Resistance LF ____ . ____                      RF ____ . ____ LR ____ . ____                      RR ____ . ____  Vehicle 2 Rolling Resistance LF ____ . ____                      RF ____ . ____ LR ____ . ____                      RR ____ . ____	<b>Trajectory Data    [ ] No    [ ] Yes</b> <b><i>If No, Go To Damage Information</i></b>  Vehicle 1 Steer Angles LF ____ ____                      RF ____ ____ LR ____ ____                      RR ____ ____  Vehicle 2 Steer Angles LF ____ ____                      RF ____ ____ LR ____ ____                      RR ____ ____  <b>Terrain Boundary    [ ] No    [ ] Yes</b>  First Point X ____ ____ . ____                      Y ____ ____ . ____ Second Point X ____ ____ . ____                      Y ____ ____ . ____ Secondary Friction Coefficient    . ____ ____
DAMAGE INFORMATION	
<div style="text-align: center; margin-bottom: 10px;"><b>VEHICLE 1</b></div> Damage Length                      ____ <u>55</u> . <u>00</u>  Crush Depths C1 <u>41</u> . <u>50</u> C2 <u>42</u> . <u>25</u> C3 <u>48</u> . <u>25</u> C4 <u>45</u> . <u>25</u> C5 <u>40</u> . <u>25</u> C6 <u>22</u> . <u>00</u>  Damage Offset                      ± ____ <u>0</u> . ____	<div style="text-align: center; margin-bottom: 10px;"><b>VEHICLE 2</b></div> Damage Length                      ____ ____ . ____  Crush Depths C1 ____ . ____ C2 ____ . ____ C3 ____ . ____ C4 ____ . ____ C5 ____ . ____ C6 ____ . ____  Damage Offset                      ± ____ ____ . ____
IF THIS COMMON IMPACT WAS WITH A MOTOR VEHICLE <i>NOT IN TRANSPORT</i> , FILL IN THE INFORMATION BELOW	
Model Year: _____ Make: _____ Model: _____ VIN: _____	The Weight, CDC, Scene Data and Damage Information for this vehicle should be recorded above.
Complete and ATTACH the appropriate vehicle damage sketch and dimensions to the Form.	

## SUMMARY OF CRASHPC RESULTS (USING SPINOUT)

10 90-02

SPEED CHANGE (DAMAGE)	VEH #1	TOTAL (MPH)	LONG. (MPH)	LAT. (MPH)	ANG. (DEG)
	VEH #1	47.7	-46.9	-8.3	10.0
	VEH #2	.0	.0	.0	.0

ENERGY DISSIPATED BY DAMAGE VEH#1:239136.5 FT-LB VEH#2: .0 FT-LB

SUMMARY OF DAMAGE DATA  
VEHICLE # 1(\* INDICATES DEFAULT VALUE)  
VEHICLE # 2

TYPE-----CATEGORY 2  
 STIFFNESS---CATEGORY 9  
 WEIGHT-----2981.0 LBS.  
 CDC-----12FDEW5  
 L-----55.0 IN.  
 C1-----41.5 IN.  
 C2-----42.3 IN.  
 C3-----48.3 IN.  
 C4-----45.3 IN.  
 C5-----40.3 IN.  
 C6-----22.0 IN.  
 D-----.0  
 RHO-----1.00 \*  
 ANG-----10.0 DEG.  
 D'----- -1.4 IN.

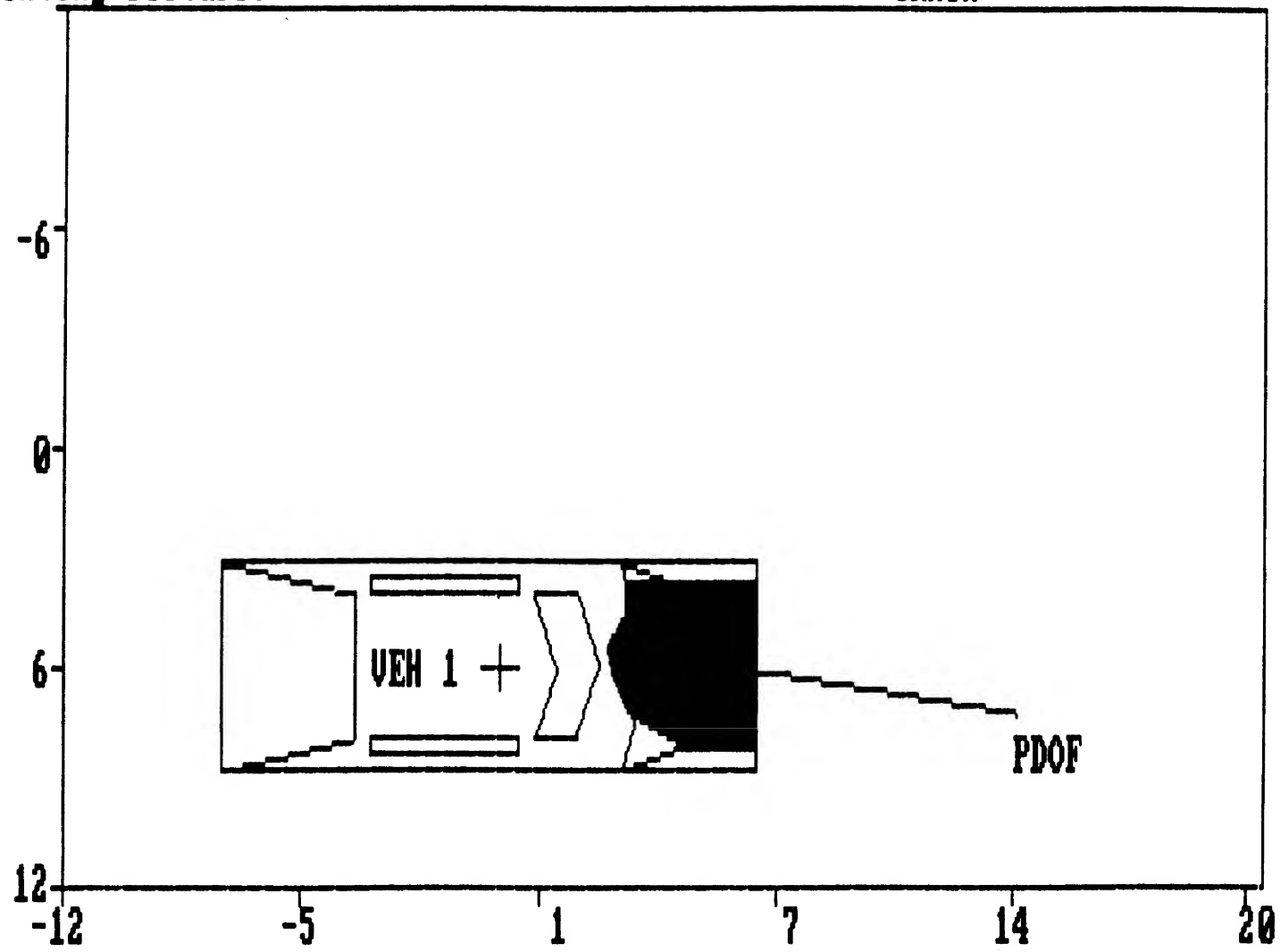
TYPE-----CATEGORY 11  
 STIFFNESS---CATEGORY 0  
 WEIGHT-----1000000.0 LBS. \*  
 CDC-----BARRIER  
 L----- .0 IN. \*  
 C1----- .0 IN. \*  
 C2----- .0 IN. \*  
 C3----- .0 IN. \*  
 C4----- .0 IN. \*  
 C5----- .0 IN. \*  
 C6----- .0 IN. \*  
 D----- .0 \*  
 RHO-----1.00 \*  
 ANG----- .0 DEG. \*  
 D'----- -16.2 IN.

## DIMENSIONS AND INERTIAL PROPERTIES

A1	=	46.3	IN.	A2	=	50.0	IN.
B1	=	50.1	IN.	B2	=	50.0	IN.
TR1	=	54.6	IN.	TR2	=	50.0	IN.
I1	=	22872.9	LB-SEC**2-IN	I2	=	2600104000.0	LB-SEC**2-IN
M1	=	7.751	LB-SEC**2/IN	M2	=	2600.104	LB-SEC**2/IN
XF1	=	83.3	IN.	XF2	=	50.0	IN.
XR1	=	-91.6	IN.	XR2	=	-50.0	IN.
YS1	=	33.6	IN.	YS2	=	50.0	IN.

Printing Picture:

CRASH



DAMAGE DESCRIPTION



**Appendix C:**

NASS Accident Form



# ACCIDENT FORM

U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

<p>1. Primary Sampling Unit Number <u>10</u></p> <p>2. Case Number - Stratum <u>90-02</u></p>	<p><b>SPECIAL STUDIES INDICATORS</b></p> <p>Check (✓) each special study (SS12-SS16 below) that has been completed; code 1 for the checked special studies and 0 for the special studies not checked.</p> <p>6. <u>  </u>SS12 Not Active <u>0</u></p> <p>7. <u>  </u>SS13 AOPS <u>0</u></p> <p>8. <u>  </u>SS14 <u>  </u> <u>0</u></p> <p>9. <u>  </u>SS15 <u>  </u> <u>0</u></p> <p>10. <u>  </u>SS16 <u>  </u> <u>0</u></p>																																										
<b>IDENTIFICATION</b>																																											
<p>3. Number of General Vehicle Forms Submitted <u>02</u></p> <p>4. Date of Accident (Month, Day, Year) <u>  </u> <u>  </u> <u>  </u> <u>9</u> <u>0</u></p> <p>5. Time of Accident <u>1916</u></p> <p>Code reported military time of accident.</p> <p>NOTE: Midnight = 2400 Unknown = 9999</p>	<p><b>NUMBER OF EVENTS</b></p> <p>11. Number of Recorded Events in This Accident <u>01</u></p> <p>Code the number of events which occurred in this accident.</p>																																										
<b>ACCIDENT EVENTS</b>																																											
<p>For each event that occurred in the accident, code the lowest numbered vehicle in the left columns and the other involved vehicle or object on the right.</p>																																											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 12.5%;">Accident Event Sequence Number</th> <th style="width: 12.5%;">Vehicle Number</th> <th style="width: 12.5%;">Class of Vehicle</th> <th style="width: 12.5%;">General Area of Damage</th> <th style="width: 12.5%;">Vehicle Number or Object Contacted</th> <th style="width: 12.5%;">Class of Vehicle</th> <th style="width: 12.5%;">General Area of Damage</th> </tr> </thead> <tbody> <tr> <td>12. <u>01</u></td> <td>13. <u>01</u></td> <td>14. <u>01</u></td> <td>15. <u>F</u></td> <td>16. <u>02</u></td> <td>17. <u>24</u></td> <td>18. <u>F</u></td> </tr> <tr> <td>19. <u>02</u></td> <td>20. <u>  </u></td> <td>21. <u>  </u></td> <td>22. <u>  </u></td> <td>23. <u>  </u></td> <td>24. <u>  </u></td> <td>25. <u>  </u></td> </tr> <tr> <td>26. <u>03</u></td> <td>27. <u>  </u></td> <td>28. <u>  </u></td> <td>29. <u>  </u></td> <td>30. <u>  </u></td> <td>31. <u>  </u></td> <td>32. <u>  </u></td> </tr> <tr> <td>33. <u>04</u></td> <td>34. <u>  </u></td> <td>35. <u>  </u></td> <td>36. <u>  </u></td> <td>37. <u>  </u></td> <td>38. <u>  </u></td> <td>39. <u>  </u></td> </tr> <tr> <td>40. <u>05</u></td> <td>41. <u>  </u></td> <td>42. <u>  </u></td> <td>43. <u>  </u></td> <td>44. <u>  </u></td> <td>45. <u>  </u></td> <td>46. <u>  </u></td> </tr> </tbody> </table>	Accident Event Sequence Number	Vehicle Number	Class of Vehicle	General Area of Damage	Vehicle Number or Object Contacted	Class of Vehicle	General Area of Damage	12. <u>01</u>	13. <u>01</u>	14. <u>01</u>	15. <u>F</u>	16. <u>02</u>	17. <u>24</u>	18. <u>F</u>	19. <u>02</u>	20. <u>  </u>	21. <u>  </u>	22. <u>  </u>	23. <u>  </u>	24. <u>  </u>	25. <u>  </u>	26. <u>03</u>	27. <u>  </u>	28. <u>  </u>	29. <u>  </u>	30. <u>  </u>	31. <u>  </u>	32. <u>  </u>	33. <u>04</u>	34. <u>  </u>	35. <u>  </u>	36. <u>  </u>	37. <u>  </u>	38. <u>  </u>	39. <u>  </u>	40. <u>05</u>	41. <u>  </u>	42. <u>  </u>	43. <u>  </u>	44. <u>  </u>	45. <u>  </u>	46. <u>  </u>	
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<p>IF GREATER THAN FIVE EVENTS, CONTINUE CODING ON THE ACCIDENT EVENTS SUPPLEMENT</p>																																											

**Appendix D:**

**NASS Vehicle Forms**

National Highway Traffic Safety  
Administration

## GENERAL VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

<p>1. Primary Sampling Unit Number <u>10</u></p> <p>2. Case Number – Stratum <u>70-22</u></p> <p>3. Vehicle Number <u>01</u></p> <p style="text-align: center;"><b>VEHICLE IDENTIFICATION</b></p> <p>4. Vehicle Model Year <u>90</u> Code the last two digits of the model year (99) Unknown</p> <p>5. Vehicle Make (specify): <u>07</u> <u>DODGE</u> Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual. (99) Unknown</p> <p>6. Vehicle Model (specify): <u>015</u> <u>DAYTONA</u> Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual. (99) Unknown</p> <p>7. Body Type <u>03</u> Note: Applicable codes are found on the back of this page.</p> <p>8. Vehicle Identification Number <u>1B3YG24K7LG</u> <span style="background-color: black; color: black;">XXXXXXXXXX</span> Left justify: Slash zeros and letter Z (0 and Z) No VIN – Code all zeros Unknown – Code all nine's</p> <p style="text-align: center;"><b>OFFICIAL RECORDS</b></p> <p>9. Police Reported Vehicle Disposition <u>1</u> (0) Not towed due to vehicle damage (1) Towed due to vehicle damage (9) Unknown</p> <p>10. Police Reported Travel Speed <u>70</u> Code to the nearest mph (NOTE: 00 means less than 0.5 mph) (97) 96.5 mph and above (99) Unknown</p>	<p>11. Police Reported Alcohol or Drug Presence <u>0</u> (0) Neither alcohol nor drugs present (1) Yes (alcohol present) (2) Yes (drugs present) (3) Yes (alcohol and drugs present) (4) Yes (alcohol or drugs present – specifics unknown) (7) Not reported (8) No driver present (9) Unknown</p> <p>12. Alcohol Test Result for Driver <u>76</u> Code actual value (decimal implied before first digit – 0.xx) (95) Test refused (96) None given (97) AC test performed, results unknown (98) No driver present (99) Unknown  Source _____</p> <p style="text-align: center;"><b>ACCIDENT RELATED</b></p> <p>13. Speed Limit <u>55</u> (00) No statutory limit Code posted or statutory speed limit (99) Unknown</p> <p>14. Attempted Avoidance Maneuver <u>03</u> (00) No impact (01) No avoidance actions (02) Braking (no lockup) (03) Braking (lockup) (04) Braking (lockup unknown) (05) Releasing brakes (06) Steering left (07) Steering right (08) Braking and steering left (09) Braking and steering right (10) Accelerating (11) Accelerating and steering left (12) Accelerating and steering right (97) No driver present (98) Other action (specify): _____ (99) Unknown</p> <p>15. Accident Type <u>50</u> Applicable codes may be found on the back of page two of this field form (00) No impact Code the number of the diagram that best describes the accident circumstance (98) Other accident type (specify): _____ (99) Unknown</p>
--	---

\*\*\*\* STOP HERE IF GV07 DOES NOT EQUAL 01-49 \*\*\*\*

**OCCUPANT RELATED**

16. Driver Presence in Vehicle 1  
 (0) Driver not present  
 (1) Driver present  
 (9) Unknown
17. Number of Occupants This Vehicle 2  
 (00-96) Code actual number of occupants for this vehicle  
 (97) 97 or more  
 (99) Unknown
18. Number of Occupant Forms Submitted 2

**VEHICLE WEIGHT ITEMS**

19. Vehicle Curb Weight 0 2 8 0 0  
2751 Code weight to nearest 100 pounds.  
 (010) Less than 1050 pounds  
 (135) 13,500 lbs or more  
 (999) Unknown  
 Source: [REDACTED]
20. Vehicle Cargo Weight 0 0 0 0  
 Code weight to nearest 100 pounds.  
 (00) Less than 50 pounds  
 (97) 9,650 lbs or more  
 (99) Unknown

**RECONSTRUCTION DATA**

21. Towed Trailing Unit 0  
 (0) No towed unit  
 (1) Yes – towed trailing unit  
 (9) Unknown
22. Documentation of Trajectory Data for This Vehicle 1  
 (0) No  
 (1) Yes
23. Post Collision Condition of Tree or Pole (for Highest Delta V) 0  
 (0) Not collision (for highest delta V) with tree or pole  
 (1) Not damaged  
 (2) Cracked/sheared  
 (3) Tilted - 45 degrees  
 (4) Tilted - 45 degrees  
 (5) Uprooted tree  
 (6) Separated pole from base  
 (7) Pole replaced  
 (8) Other (specify):  
 (9) Unknown

24. Rollover 2  
 (0) No rollover (no overturning)  
 Rollover (primarily about the longitudinal axis):  
 (1) Rollover, 1 quarter turn only  
 (2) Rollover, 2 quarter turns  
 (3) Rollover, 3 quarter turns  
 (4) Rollover, 4 or more quarter turns (specify):  
 (5) Rollover – end-over-end (i.e., primarily about the lateral axis)  
 (9) Rollover (overturn), details unknown

**OVERRIDE/UNDERRIDE (THIS VEHICLE)**

25. Front Override/Underride (this vehicle) 0
26. Rear Override/Underride (this vehicle) 0  
 (0) No override/underride, or not an end-to-end impact  
 Override (see specific CDC)  
 (1) 1st CDC  
 (2) 2nd CDC  
 (3) Other not automated CDC (specify):  
 Underride (see specific CDC)  
 (4) 1st CDC  
 (5) 2nd CDC  
 (6) Other not automated CDC (specify):  
 (7) Medium/heavy truck override  
 (9) Unknown

**HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V**

Values: (000)-(359) Code actual value  
 (997) Noncollision  
 (998) Impact with object  
 (999) Unknown

27. Heading Angle for This Vehicle 0 5 0
28. Heading Angle for Other Vehicle 2 6 0

## National Accident Sampling System – Crashworthiness Data System: General Vehicle Form

Page 3

29. Basis for Total Delta V (Highest)

4

Delta V Calculated

- (1) CRASH program – damage only routine
- (2) CRASH program – damage and trajectory routine
- (3) Missing vehicle algorithm

Delta V Not Calculated

- (4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.
- (5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction techniques, regardless of adequacy of damage data.
- (6) All vehicles and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

**COMPUTER GENERATED DELTA V**

30. Total Delta V

Secondary Highest

99

\_\_\_\_ Nearest mph \_\_\_\_

(NOTE: 00 means less than  
-0.5 mph)  
(97) 96.5 mph and above  
(99) Unknown

31. Longitudinal Component of  
Delta V+ 99

\_\_\_\_ Nearest mph \_\_\_\_

(NOTE: 00 means greater than  
-0.5 and less than -0.5 mph)  
(-97) -96.5 mph and above  
(-99) Unknown

Secondary Highest

32. Lateral Component of Delta V

- 99

\_\_\_\_ Nearest mph \_\_\_\_

(NOTE: 00 means greater than  
-0.5 and less than -0.5 mph)  
(-97) -96.5 mph and above  
(-99) Unknown

33. Energy Absorption

999900

\_\_\_\_ Nearest 100 foot-lbs \_\_\_\_

(NOTE: 0000 means less than 50 Foot-Lbs)  
(9997) 999,650 foot-lbs or more  
(9999) Unknown

34. Confidence in Reconstruction Program  
Results (for Highest Delta V)0

- (0) No reconstruction
- (1) Collision fits model – results appear reasonable
- (2) Collision fits model – results appear high
- (3) Collision fits model – results appear low
- (4) Borderline reconstruction – results appear reasonable

35. Type of Vehicle Inspection

1

- (0) No Inspection
- (1) Complete inspection
- (2) Partial inspection (specify):

36. Is this an AOPS Vehicle?

1

- (0) No
- (1) Yes

\*\*\* STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), \*\*\*  
DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

## VEHICLE IDENTIFICATION

## LOCATOR

## CRUSH PROFILE

Use as many lines/columns as necessary to describe each damage profile.

HS Form 435A (Rev. 1/80)

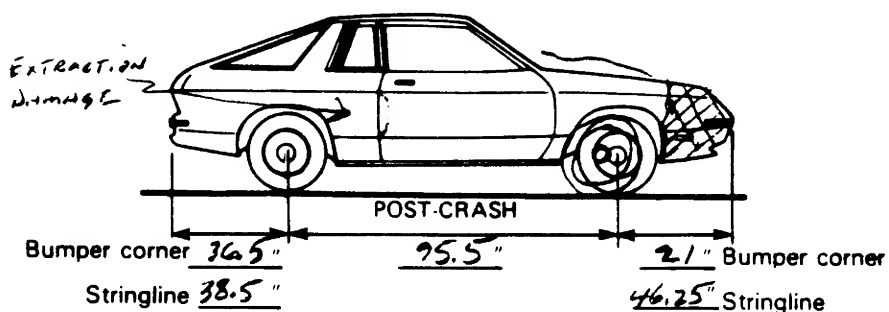
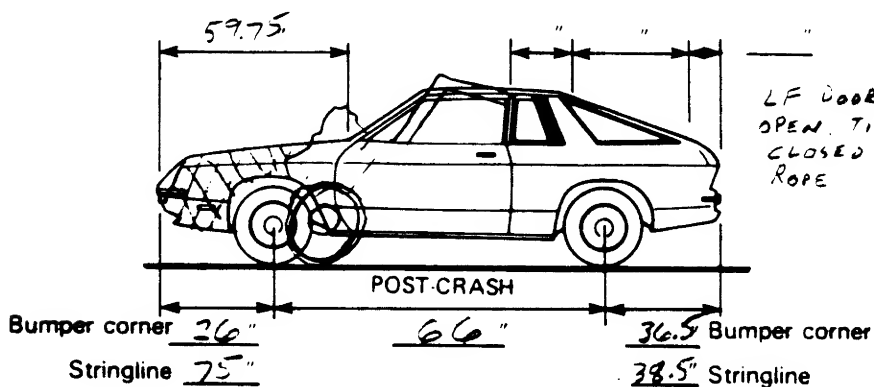
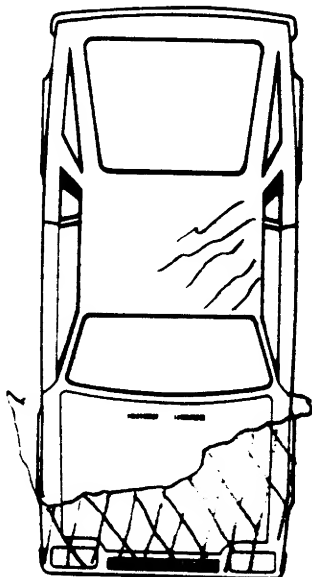
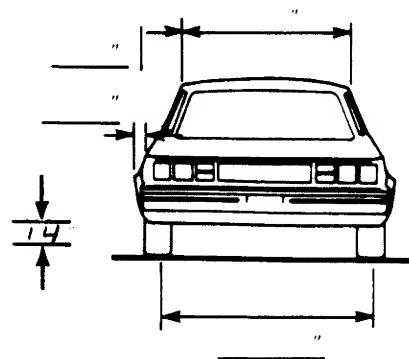
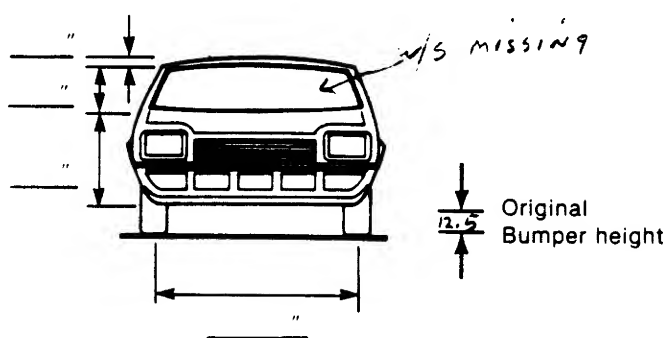
\* TAKEN FROM EXEMPLAR 1990 DAYTONA

## National Accident Sampling System - Crashworthiness Data System: Exterior Vehicle Form

2b

## VEHICLE DAMAGE SKETCH

<b>TIRE - WHEEL DAMAGE</b> a. Rotation physically restricted RF <u>2</u> LF <u>1</u> RR <u>2</u> LR <u>2</u> (1) Yes (2) No (8) NA (9) Unk.		<b>b. Tire deflated</b> RF <u>2</u> LF <u>1</u> RR <u>2</u> LR <u>2</u>		<b>ORIGINAL SPECIFICATIONS</b> Wheelbase <u>97</u> Overall Length <u>179.2</u> Maximum Width <u>69.3</u> Curb Weight <u>2751</u> Average Track <u>57.5/57.6</u> Front Overhang <u>42.9</u> Rear Overhang <u>38.6</u> Engine Size: cyl./ displ. <u>2.5L EFI</u> Undeformed End Width <u>55</u>		<b>WHEEL STEER ANGLES</b> (For locked front wheels or displaced rear axles only) RF = <u>    </u> LF = <u>0.5</u> RR = <u>    </u> LR = <u>    </u> Within $\pm 5$ degrees	
<b>TYPE OF TRANSMISSION</b> <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Automatic				<b>DRIVE WHEELS</b> <input checked="" type="checkbox"/> FWD <input type="checkbox"/> RWD <input type="checkbox"/> 4WD		Approximate Cargo Weight <u>    </u>	



NOTES Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewall, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.





## COLLISION DEFORMATION CLASSIFICATION

## HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. <u>01</u>	5. <u>02</u>	6. <u>12</u>	7. <u>F</u>	8. <u>D</u>	9. <u>E</u>	10. <u>W</u>	11. <u>05</u>

## Second Highest Delta "V"

12. <u>   </u>	13. <u>   </u>	14. <u>   </u>	15. <u>   </u>	16. <u>   </u>	17. <u>   </u>	18. <u>   </u>	19. <u>   </u>
----------------	----------------	----------------	----------------	----------------	----------------	----------------	----------------

## CRUSH PROFILE

(The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. ALL MEASUREMENTS ARE IN INCHES.)

## HIGHEST DELTA "V"

20. <u>L</u>	21. <u>C1</u>	<u>C2</u>	<u>C3</u>	<u>C4</u>	<u>C5</u>	<u>C6</u>	22. + - D
<u>055</u>	<u>42</u>	<u>42</u>	<u>48</u>	<u>45</u>	<u>40</u>	<u>22</u>	<u>000</u>

## Second Highest Delta "V"

23. <u>L</u>	24. <u>C1</u>	<u>C2</u>	<u>C3</u>	<u>C4</u>	<u>C5</u>	<u>C6</u>	25. + - D
<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>

26. Are CDCs Documented  
but Not Coded on The  
Automated File  
(0) No  
(1) Yes

0

27. Researcher's Assessment  
of Vehicle Disposition  
(0) Not towed due to  
vehicle damage  
(1) Towed due to  
vehicle damage  
(9) Unknown

1

28. Original Wheelbase  
97 Code to the  
nearest  
tenth of an inch  
(9999) Unknown

297.0

\*\*\* STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED \*\*\*  
(I.E., GV09 = 0 OR 9), DO NOT COMPLETE THE INTERIOR VEHICLE FORM.



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

## INTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number 10

2. Case Number—Stratum 90-02

3. Vehicle Number 01

### INTEGRITY

4. Passenger Compartment Integrity- 98

(00) No integrity loss

Yes, Integrity Was Lost Through

(01) Windshield

(02) Door (side)

(03) Door/hatch (rear)

(04) Roof

(05) Roof glass

(06) Side window

(07) Rear window

(08) Roof and roof glass

(09) Windshield and door (side)

(10) Windshield and roof

(11) Side and rear window

(12) Windshield and side window

(13) Door and side window

(98) Other combination of above (specify):

LEFT DOOR, LEFT SIDE WINDOW

(99) Unknown

### Door, Tailgate Or Hatch Opening

5. LF 2 6. RF 3 7. LR 0 8. RR 0 9. TG/H 1

(0) No door/gate/hatch

(1) Door/gate/hatch remained closed and operational

(2) Door/gate/hatch came open during collision

(3) Door/gate/hatch jammed shut

(8) Other (specify):

(9) Unknown

Damage/Failure Associated with Door, Tailgate or Hatch  
Opening in Collision: Code 0.

10. LF 0 11. RF 0 12. LR 0 13. RR 0 14. TG/H 0

(0) No door/gate/hatch or door not opened

Door, Tailgate, or Hatch Came Open During Collision

(1) Door operational (no damage)

(2) Latch/striker failure due to damage

(3) Hinge failure due to damage

(4) Door structure failure due to damage

(5) Door support (i.e., pillar, sill, roof side rail,  
etc.) failure due to damage

(6) Latch/striker and hinge failure due to  
damage

(8) Other failure (specify):

(9) Unknown

### GLAZING

#### Glazing Damage from Impact Forces

15. WS 9 16. LF 6 17. RF 0 18. LR 0 19. RR 0

20. BL 0 21. Roof 8 22. Other 8

(0) No glazing damage from impact forces

(2) Glazing in place and cracked from impact forces

(3) Glazing in place and holed from impact forces

(4) Glazing out-of-place (cracked or not) and not holed from  
impact forces

(5) Glazing out-of-place and holed from impact forces

(6) Glazing disintegrated from impact forces

(7) Glazing removed prior to accident

(8) No glazing

(9) Unknown if damaged UNKNOWN DEGREE OF DAMAGE  
MOST OF WAS MISSING

#### Glazing Damage from Occupant Contact

23. WS 9 24. LF 0 25. RF 0 26. LR 0 27. RR 0

28. BL 0 29. Roof 0 30. Other 0

(0) No occupant contact to glazing or no glazing

(1) Glazing contacted by occupant but no glazing damage

(2) Glazing in place and cracked by occupant contact

(3) Glazing in place and holed by occupant contact

(4) Glazing out-of-place (cracked or not) by occupant  
contact and not holed by occupant contact

(5) Glazing out-of-place by occupant contact  
and holed by occupant contact

(6) Glazing disintegrated by occupant contact

(9) Unknown if contacted by occupant

If No Glazing Damage **And** No Occupant Contact or No  
Glazing, Then Code IV 31 Through IV 46 As 0

#### Type of Window/Windshield Glazing

31. WS 9 32. LF 2 33. RF 0 34. LR 0 35. RR 0

36. BL 0 37. Roof 0 38. Other 0

(0) No glazing contact and no damage, or no glazing

(1) AS-1 — Laminated

(2) AS-2 — Tempered

(3) AS-3 — Tempered-tinted

(4) AS-14 — Glass/Plastic

(8) Other (specify):

(9) Unknown

#### Window Precrash Glazing Status

39. WS 9 40. LF 4 41. RF 0 42. LR 0 43. RR 0

44. BL 0 45. Roof 0 46. Other 0

(0) No glazing contact and no damage, or no glazing

(1) Fixed

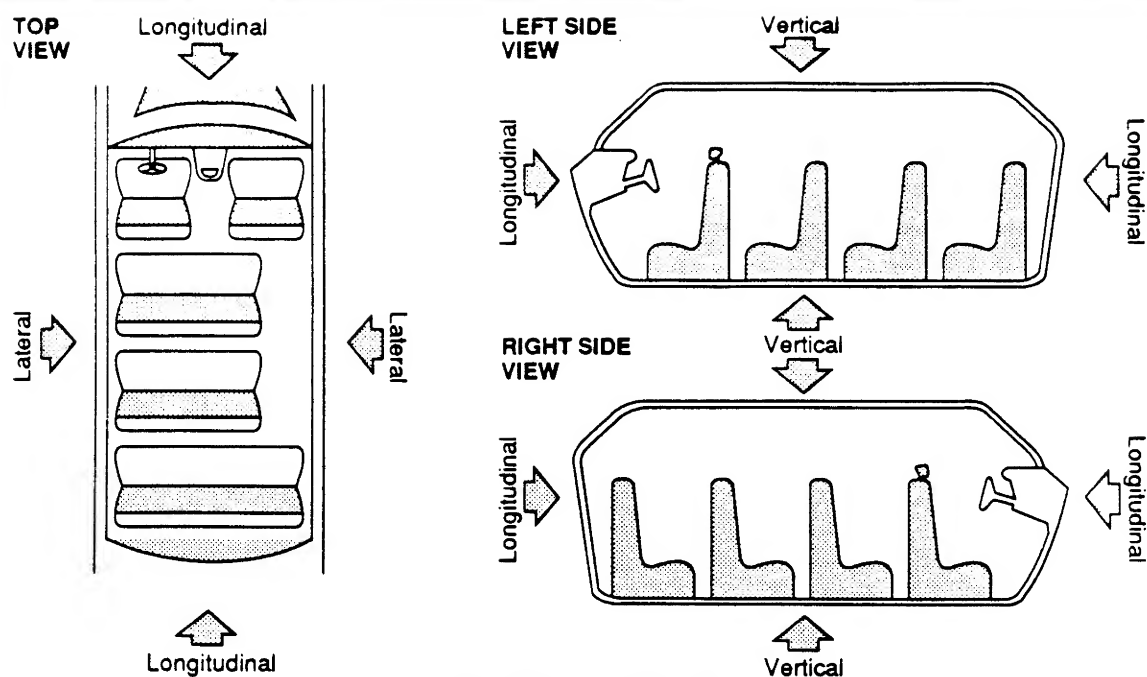
(2) Closed

(3) Partially opened

(4) Fully opened

(9) Unknown

## INTRUSION WORK SHEET



LOCATION OF INTRUSION	INTRUDED COMPONENT	COMPARISON VALUE	-	INTRUDED VALUE	=	INTRUSION	DOMINANT CRUSH DIRECTION
11	DASH	21	-	7.5"	=	13.5	Long.
11	LOWER A-PILLAR	27.25	-	12.0	=	15.25	Long.
11	TOE PAN	40	-	21.0	=	19	Long.
11	UPPER A-PILLAR	13	-	3.25	=	9.75	Long.
11	DRIVER'S SEAT	9	-	0	=	9	VERT.
11	STEERING ASSEMBLY	13	-	4.5	=	8.5	Long.
11	W/S HEADER	10	-	6.5	=	3.5	Long.
11	SILL		-		=	EST. 6"-8"	LAT.
12	DASH	21	-	13.75	=	7.25	Long.
12	DRIVER'S SEAT	7	-	1.5	=	5.5	VERT.
12	STEERING ASSEMBLY	10.5	-	5.5	=	5	Long.
12	W/S HEADER	10	-	8	=	2	Long.
21	(L) FRONT SEAT	16	-	30	=	14	Long.
13	FLOOR PAN	16.5	-	10	=	6.5	VERT.
13	UPPER A-PILLAR	13	-	7	=	6	Long.

Document no more than the 15 most severe intrusions

## OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV 47-IV 86 blank.

	Location of Intrusion	Intruding Component	Magnitude of Intrusion	Dominant Crush Direction
1st	47. <u>1</u> <u>1</u>	48. <u>05</u>	49. <u>5</u>	50. <u>2</u>
2nd	51. <u>1</u> <u>1</u>	52. <u>06</u>	53. <u>4</u>	54. <u>2</u>
3rd	55. <u>2</u> <u>1</u>	56. <u>17</u>	57. <u>4</u>	58. <u>2</u>
4th	59. <u>1</u> <u>1</u>	60. <u>02</u>	61. <u>4</u>	62. <u>2</u>
5th	63. <u>1</u> <u>1</u>	64. <u>26</u>	65. <u>3</u>	66. <u>1</u>
6th	67. <u>1</u> <u>1</u>	68. <u>01</u>	69. <u>3</u>	70. <u>2</u>
7th	71. <u>1</u> <u>2</u>	72. <u>03</u>	73. <u>3</u>	74. <u>2</u>
8th	75. <u>1</u> <u>3</u>	76. <u>17</u>	77. <u>3</u>	78. <u>1</u>
9th	79. <u>1</u> <u>3</u>	80. <u>06</u>	81. <u>3</u>	82. <u>2</u>
10th	83. <u>1</u> <u>2</u>	84. <u>26</u>	85. <u>2</u>	86. <u>1</u>

## LOCATION OF INTRUSION

## Front Seat

- (11) Left  
(12) Middle  
(13) Right

## Second Seat

- (21) Left  
(22) Middle  
(23) Right

## Third Seat

- (31) Left  
(32) Middle  
(33) Right

## Fourth Seat

- (41) Left  
(42) Middle  
(43) Right

- (97) Catastrophic  
(98) Other enclosed area (specify):  
\_\_\_\_\_

- (99) Unknown

## INTRUDING COMPONENT

## Interior Components

- (01) Steering assembly  
(02) Instrument panel left  
(03) Instrument panel center  
(04) Instrument panel right  
(05) Toe pan  
(06) A-pillar  
(07) B-pillar  
(08) C-pillar  
(09) D-pillar  
(10) Door panel  
(12) Roof (or convertible top)  
(13) Roof side rail  
(14) Windshield  
(15) Windshield header  
(16) Window frame  
(17) Floor pan  
(18) Backlight header  
(19) Front seat back  
(20) Second seat back  
(21) Third seat back  
(22) Fourth seat back  
(23) Fifth seat back  
(24) Seat cushion  
(25) Back panel or door surface  
(26) Other interior component (specify):  
DRIVER'S SEAT CUSHION  
(27) Side panel - forward of the A-pillar  
(28) Side panel - rear of the A-pillar

## Exterior Components

- (30) Hood  
(31) Outside surface of vehicle (specify):  
\_\_\_\_\_  
(32) Other exterior object in the environment (specify):  
\_\_\_\_\_  
(33) Unknown exterior object  
(97) Catastrophic  
(98) Intrusion of unlisted component(s) (specify):  
\_\_\_\_\_  
(99) Unknown

## MAGNITUDE OF INTRUSION

- (1)  $\geq 1$  inch but  $< 3$  inches  
(2)  $\geq 3$  inches but  $< 6$  inches  
(3)  $\geq 6$  inches but  $< 12$  inches  
(4)  $\geq 12$  inches but  $< 18$  inches  
(5)  $\geq 18$  inches but  $< 24$  inches  
(6)  $\geq 24$  inches  
(7) Catastrophic  
(9) Unknown

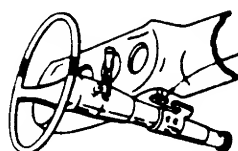
## DOMINANT CRUSH DIRECTION

- (1) Vertical  
(2) Longitudinal  
(3) Lateral  
(7) Catastrophic  
(9) Unknown

## STEERING COLUMN WORKING DIAGRAMS

### STEERING COLUMN COLLAPSE

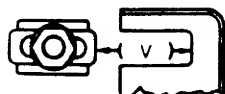
Steering Column Shear Module Movement



SHEAR CAPSULE

*DIFFICULT TO  
TELL BUT  
APPEARS LIKE  
SHEAR CAPSULES.*

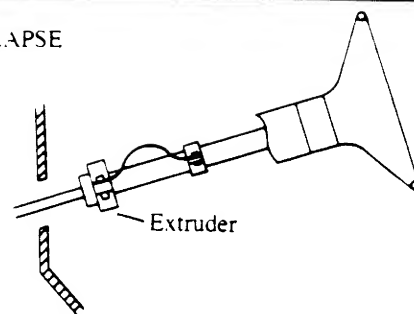
Left 4.5



Right 3"

$V = 3.75"$

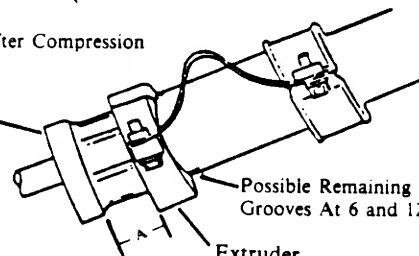
Direction and Magnitude of Steering Column Movement



Extruder

After Compression

Flare  
Tube



Possible Remaining Starter  
Grooves At 6 and 12 o'clock

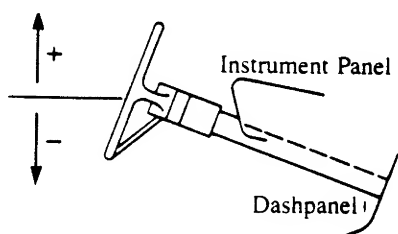
Extruder

Compression = Measurement A

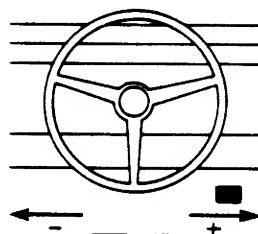
A = \_\_\_\_\_

### STEERING COLUMN MOVEMENT

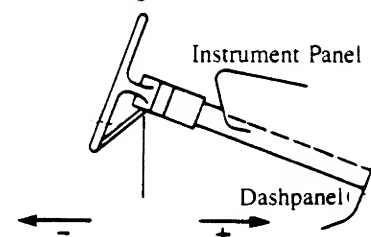
Vertical Movement



Lateral Movement






Longitudinal Movement



	COMPARISON VALUE	-	DAMAGED VALUE	=	MOVEMENT
VERTICAL	8	-	13	=	+ 5.0
LATERAL	13.5	-	16	=	- 2.5
LONGITUDINAL	13	-	4.5	=	- 8.5

### STEERING RIM/SPOKE DEFORMATION

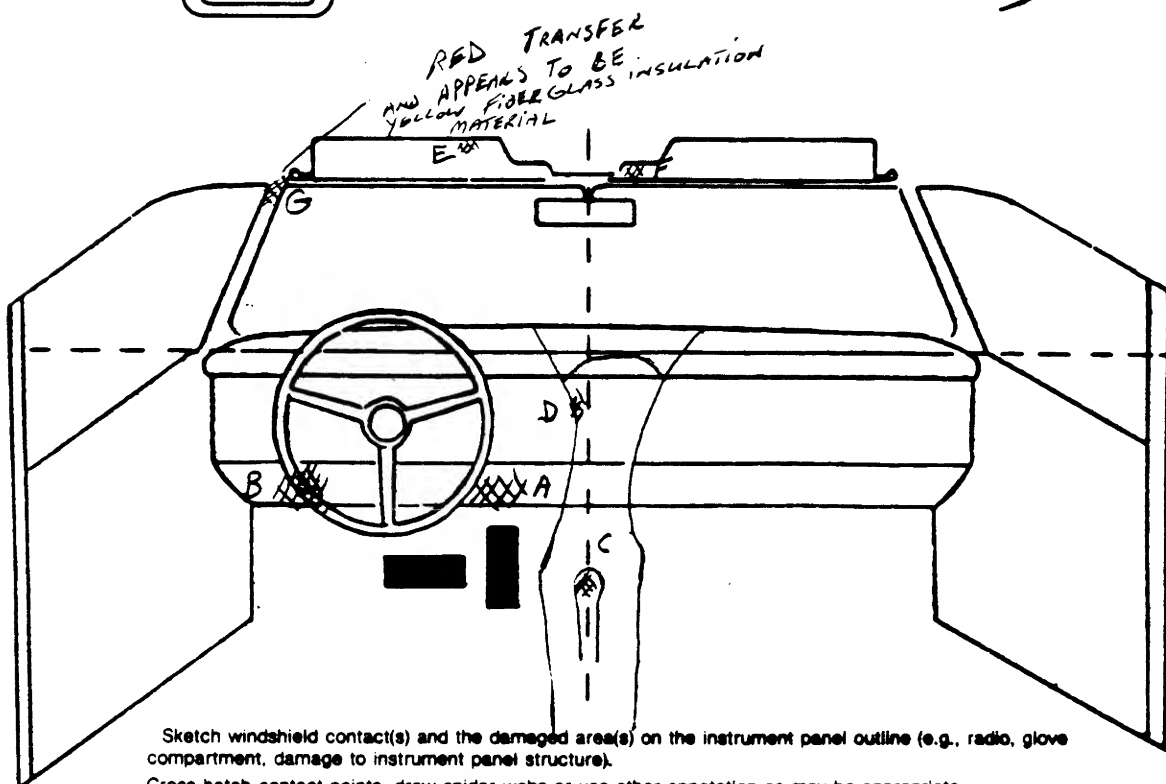
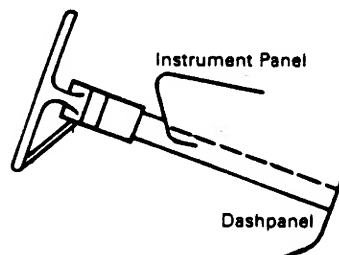
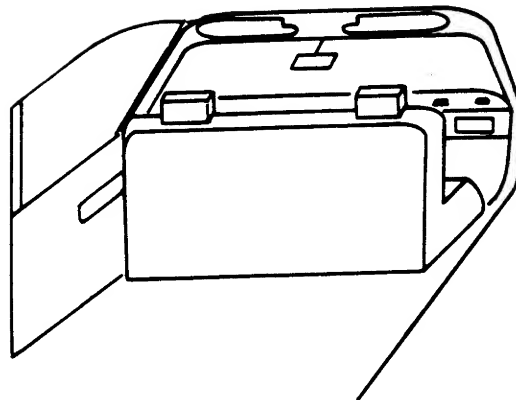
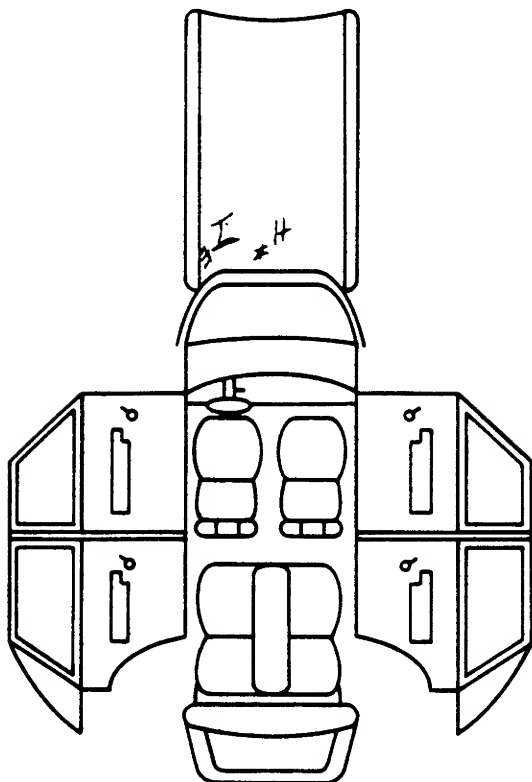
COMPARISON VALUE	-	DAMAGED VALUE	=	DEFORMATION
-			=	
-			=	

STEERING COLUMN	
<b>87. Steering Column Type</b> <span style="float: right;"><u>1</u></span> (1) Fixed column (2) Tilt column (3) Telescoping column (4) Tilt and telescoping column (8) Other column type (specify): _____ (9) Unknown	<b>92. Steering Rim/Spoke Deformation</b> <span style="float: right;"><u>8</u></span> _____ Code actual measured deformation to the nearest inch. (0) No steering rim deformation (1-5) Actual measured value (6) 6 inches or more (8) Observed deformation cannot be measured (9) Unknown
If PDOF $\neq$ 11, 12 or 1, Then Code IV88-IV91 As 96	
<b>88. Steering Column Collapse Due to Occupant Loading</b> <span style="float: right;"><u>04</u></span> _____ Code actual measured movement to the nearest inch. See coding manual for measurement technique(s). (00) No movement, compression, or collapse (01-19) Actual measured value (20) 20 inches or greater  Estimated movement from observation (81) Less than 1 inch (82) $\geq$ 1 inch but $<$ 2 inches (83) $\geq$ 2 inches but $<$ 4 inches (84) $\geq$ 4 inches but $<$ 6 inches (85) $\geq$ 6 inches but $<$ 8 inches (86) Greater than or equal to 8 inches (96) Not assessed (PDOF $\neq$ 11, 12, 1) (97) Apparent movement, value undetermined or cannot be measured or estimated (98) Nonspecified type column (99) Unknown  <b>Direction And Magnitude of Steering Column Movement</b>  <b>89. Vertical Movement</b> <span style="float: right;"><u>*099</u></span>  <b>90. Lateral Movement</b> <span style="float: right;"><u>*+099</u></span>  <b>91. Longitudinal Movement</b> <span style="float: right;"><u>+209</u></span> Code the actual measured movement to the nearest inch. See Coding Manual for measurement technique(s) (00) No steering column movement ( $\pm$ 01 - $\pm$ 49) Actual measured value ( $\pm$ 50) 50 inches or greater  Estimated movement from observation ( $\pm$ 81) $\geq$ 1 inch but $<$ 3 inches ( $\pm$ 82) $\geq$ 3 inches but $<$ 6 inches ( $\pm$ 83) $\geq$ 6 inches but $<$ 12 inches ( $\pm$ 84) $\geq$ 12 inches (96) Not assessed (PDOF $\neq$ 11, 12, 1) (97) Apparent movement $>$ 1 inch but cannot be measured or estimated (99) Unknown	<b>93. Location of Steering Rim/Spoke Deformation</b> <span style="float: right;"><u>05</u></span> (00) No steering rim deformation  Quarter Sections (01) Section A (02) Section B (03) Section C (04) Section D <div style="text-align: center;">  </div> Half Sections (05) Upper half of rim/spoke (06) Lower half of rim/spoke (07) Left half of rim/spoke (08) Right half of rim/spoke <div style="display: flex; justify-content: center; gap: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> (09) Complete steering wheel collapse (10) Undetermined location (99) Unknown
INSTRUMENT PANEL	
<b>94. Odometer Reading</b> <span style="float: right;"><u>002,000</u></span> <u>2367</u> miles - Code mileage to the nearest 1,000 miles (000) No odometer (001) Less than 1,500 miles (300) 299,500 miles or more (999) Unknown Source: _____	
<b>95. Instrument Panel Damage from Occupant Contact?</b> <span style="float: right;"><u>1</u></span> (0) No (1) Yes (9) Unknown	
<b>96. Knee Bolsters Deformed from Occupant Contact?</b> <span style="float: right;"><u>8</u></span> (0) No (1) Yes (8) Not present (9) Unknown	
<b>97. Did Glove Compartment Door Open During Collision(s)?</b> <span style="float: right;"><u>1</u></span> (0) No (1) Yes (8) Not present (9) Unknown	

\* AMBULANCE CREW PULLED COLUMN UP WITH CHAIN AND JAWS OF LIFE TO EXTRACT DRIVER. SEE WRITTEN REPORT.

## VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure).

Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.

Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.



## National Accident Sampling System – Crashworthiness Data System: Interior Vehicle Form

Page 5

## POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	09	1	(R) KNEE	DENTED, SCUFFED, HAND BROKEN	1
B	07	1	(L) KNEE	" " "	1
C	57	1	(R) HAND	SCUFF	3
D	09	1	(R) HAND	"	3
E	03	1		SCUFF & BLOOD	
F	03	1		" "	
G	22	1	HEAD	SCUFFS, RED TRANSFER MATERIAL	2
H	54	1		SCUFF & BLOOD	
I	54	1		SCUFF & BLOOD	
J					
K					
L					
M					
N					

## CODES FOR INTERIOR COMPONENTS

## FRONT

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A-pillar, instrument panel, or mirror (passenger side only)
- (16) Other front object (specify): \_\_\_\_\_

## LEFT SIDE

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A pillar
- (23) Left B pillar
- (24) Other left pillar (specify): \_\_\_\_\_
- (25) Left side window glass or frame

- (26) Left side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail
- (27) Other left side object (specify): \_\_\_\_\_

## RIGHT SIDE

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A pillar
- (33) Right B pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail
- (37) Other right side object (specify): \_\_\_\_\_

## INTERIOR

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_
- (44) Head restraint system
- (45) Air bag
- (46) Other occupants (specify): \_\_\_\_\_
- (47) Interior loose objects

- (48) Child safety seat (specify): \_\_\_\_\_

- (49) Other interior object (specify): \_\_\_\_\_

## ROOF

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

## FLOOR

- (56) Floor including toe pan
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

## REAR

- (60) Backlight (rear window)
- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

## CONFIDENCE LEVEL OF CONTACT POINT

- (1) Certain
- (2) Probable
- (3) Possible
- (4) Unknown

## AUTOMATIC RESTRAINTS

NOTES: Encode the data for each applicable front seat position. The attributes for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
F I R S T	Availability	1	0	0
	Function	4	0	0
	Failure	1	0	0

### Automatic (Passive) Restraint System Availability

- (0) Not equipped/not available
- (1) Airbag
- (2) Airbag disconnected (specify): \_\_\_\_\_
- (3) Airbag not reinstalled
- (4) 2 point automatic belts
- (5) 3 point automatic belts
- (6) Automatic belts destroyed or rendered inoperative
- (9) Unknown

### Automatic (Passive) Restraint Function

- (0) Not equipped/not available

#### Automatic Belt

- (1) Automatic belt in use
- (2) Automatic belt not in use
- (3) Automatic belt use unknown

#### Air Bag

- (4) Airbag deployed during accident
- (5) Airbag deployed inadvertently just prior to accident
- (6) Deployed, accident sequence undetermined
- (7) Nondeployed
- (8) Unknown if deployed
- (9) Unknown

### Did Automatic (Passive) Restraint Fail

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): \_\_\_\_\_
- (9) Unknown

**MANUAL RESTRAINTS**

**NOTES:** Encode the applicable data for **each seat position** in the vehicle. The attributes for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a child safety seat is present, encode the data on the back of this page.

If the vehicle has automatic restraints available, encode the appropriate data on the back of the previous page.

		Left	Center	Right
FIRST	Availability	4	0	4
	Use	00	00	00
	Failure Modes	0	0	0
SECOND	Availability	4	0	4
	Use	0	00	0
	Failure Modes	0	0	0
THIRD	Availability			
	Use			
	Failure Modes			
OTHER	Availability			
	Use			
	Failure Modes			

**Manual (Active) Belt System Availability**

- (0) Not available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available – type unknown
- (8) Other belt (specify):

(9) Unknown

**Manual (Active) Belt System Use**

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used – type unknown

(08) Other belt used (specify):

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat – type unknown
- (18) Other belt used with child safety seat (specify):

(99) Unknown if belt used

**Manual (Active) Belt Failure Modes During Accident**

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

- (6) Broken retractor
- (7) Combination of above (specify):

(8) Other manual belt failure (specify):

(9) Unknown

**HEAD RESTRAINTS/SEAT EVALUATION**

NOTES: Encode the applicable data for **each seat position** in the vehicle. The attributes for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
FIRST	Head Restraint Type/Damage	3	0	3
	Seat Type	02	1	02
	Seat Performance	7		1
SECOND	Head Restraint Type/Damage	0	1	0
	Seat Type	02		02
	Seat Performance	3	0	3
THIRD	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
OTHER	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			

**Head Restraint Type/Damage by Occupant at This Occupant Position**

- (0) No head restraints
- (1) Integral – no damage
- (2) Integral – damaged during accident
- (3) Adjustable – no damage
- (4) Adjustable – damaged during accident
- (5) Add-on – no damage
- (6) Add-on – damaged during accident
- (8) Other (specify): \_\_\_\_\_
- (9) Unknown

**Seat Type (This Occupant Position)**

- (00) No seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., van type)
- (09) Other seat type (specify): \_\_\_\_\_
- (99) Unknown

**Seat Performance (This Occupant Position)**

- (0) No seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks failed
- (4) Seat tracks/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): \_\_\_\_\_

- (7) Combination of above (specify): *SEAT TRACK*
- (8) Other (specify): *UNKNOWN SEAT*  
*DISPLACED BY INTRUSION.*
- (9) Unknown

**DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE (I.E. UNUSUAL OCCUPANT CONTACT PATTERN)**


**EJECTION/ENTRAPMENT DATA**

Complete the following if the researcher has any indications that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

**EJECTION** No ☒ Yes ☐

Describe indications of ejection and body parts involved in partial ejection(s):

---



---



---



---

Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

**Ejection**

- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

**Ejection Area**

- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear

**(7) Roof**

- (8) Other area (e.g., back of pickup, etc.) (specify):

**(9) Unknown****Ejection Medium**

- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify):

**(5) Integral structure**

- (8) Other medium (specify):

**(9) Unknown****Medium Status (Immediately Prior to Impact)**

- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

**ENTRAPMENT** No ☒ Yes ☐

Describe entrapment mechanism: \_\_\_\_\_

---



---



---



---

Component(s): \_\_\_\_\_

---



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(Note in vehicle interior diagram)

National Highway Traffic Safety  
Administration

## GENERAL VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM1. Primary Sampling Unit Number 102. Case Number - Stratum 90-023. Vehicle Number 02

## VEHICLE IDENTIFICATION

4. Vehicle Model Year 82Code the last two digits of the model year  
(99) Unknown5. Vehicle Make (specify): 12FORDApplicable codes are found in your  
NASS CDS Data Collection, Coding, and  
Editing Manual.  
(99) Unknown6. Vehicle Model (specify): 8819000 TRACTORApplicable codes are found in your  
NASS CDS Data Collection, Coding, and  
Editing Manual.  
(99) Unknown7. Body Type 65Note: Applicable codes are found on  
the back of this page.

8. Vehicle Identification Number

1FDYA90W3LV [REDACTED]Left justify; Slash zeros and letter Z (0 and Z)  
No VIN - Code all zeros  
Unknown - Code all nine's

## OFFICIAL RECORDS

9. Police Reported Vehicle Disposition 1(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown10. Police Reported Travel Speed 99Code to the nearest mph (NOTE: 00 means  
less than 0.5 mph)  
(97) 96.5 mph and above  
(99) Unknown11. Police Reported Alcohol or Drug Presence 2(0) Neither alcohol nor drugs present  
(1) Yes (alcohol present)  
(2) Yes (drugs present)  
(3) Yes (alcohol and drugs present)  
(4) Yes (alcohol or drugs present - specifics  
unknown)  
(7) Not reported  
(8) No driver present  
(9) Unknown12. Alcohol Test Result for Driver 96Code actual value (decimal implied before  
first digit - 0.xx)  
(95) Test refused  
(96) None given  
(97) AC test performed, results unknown  
(98) No driver present  
(99) Unknown

Source \_\_\_\_\_

## ACCIDENT RELATED

13. Speed Limit 55(00) No statutory limit  
Code posted or statutory speed limit  
(99) Unknown14. Attempted Avoidance Maneuver 21(00) No impact  
(01) No avoidance actions  
(02) Braking (no lockup)  
(03) Braking (lockup)  
(04) Braking (lockup unknown)  
(05) Releasing brakes  
(06) Steering left  
(07) Steering right  
(08) Braking and steering left  
(09) Braking and steering right  
(10) Accelerating  
(11) Accelerating and steering left  
(12) Accelerating and steering right  
(97) No driver present  
(98) Other action (specify):  
\_\_\_\_\_

(99) Unknown

15. Accident Type 51Applicable codes may be found on the back  
of page two of this field form  
(00) No impact  
Code the number of the diagram that  
best describes the accident circumstance  
(98) Other accident type (specify):  
\_\_\_\_\_

(99) Unknown

\*\*\*\* STOP HERE IF GV07 DOES NOT EQUAL 01-49 \*\*\*\*

**OCCUPANT RELATED**

16. Driver Presence in Vehicle \_\_\_\_\_  
 (0) Driver not present  
 (1) Driver present  
 (9) Unknown
17. Number of Occupants This Vehicle \_\_\_\_\_  
 (00-96) Code actual number of occupants  
       for this vehicle  
 (97) 97 or more  
 (99) Unknown
18. Number of Occupant Forms Submitted \_\_\_\_\_

24. Rollover \_\_\_\_\_  
 (0) No rollover (no overturning)
- Rollover (primarily about the longitudinal axis):  
 (1) Rollover, 1 quarter turn only  
 (2) Rollover, 2 quarter turns  
 (3) Rollover, 3 quarter turns  
 (4) Rollover, 4 or more quarter turns (specify): \_\_\_\_\_
- (5) Rollover – end-over-end (i.e., primarily about the lateral axis)  
 (9) Rollover (overturn), details unknown

**VEHICLE WEIGHT ITEMS**

19. Vehicle Curb Weight \_\_\_\_\_ 00  
       \_\_\_\_\_Code weight to nearest  
       100 pounds.  
 (010) Less than 1050 pounds  
 (135) 13,500 lbs or more  
 (999) Unknown
- Source: \_\_\_\_\_
20. Vehicle Cargo Weight \_\_\_\_\_ 00  
       \_\_\_\_\_Code weight to nearest  
       100 pounds.  
 (00) Less than 50 pounds  
 (97) 9,650 lbs or more  
 (99) Unknown

**OVERRIDE/UNDERRIDE (THIS VEHICLE)**

25. Front Override/Underride (this vehicle) \_\_\_\_\_
26. Rear Override/Underride (this vehicle) \_\_\_\_\_
- (0) No override/underride, or  
       not an end-to-end impact
- Override (see specific CDC)  
 (1) 1st CDC  
 (2) 2nd CDC  
 (3) Other not automated CDC (specify): \_\_\_\_\_
- Underride (see specific CDC)  
 (4) 1st CDC  
 (5) 2nd CDC  
 (6) Other not automated CDC (specify): \_\_\_\_\_
- (7) Medium/heavy truck override  
 (9) Unknown

**RECONSTRUCTION DATA**

21. Towed Trailing Unit \_\_\_\_\_  
 (0) No towed unit  
 (1) Yes – towed trailing unit  
 (9) Unknown
22. Documentation of Trajectory Data  
       for This Vehicle \_\_\_\_\_  
 (0) No  
 (1) Yes
23. Post Collision Condition of Tree or Pole  
       (for Highest Delta V) \_\_\_\_\_  
 (0) Not collision (for highest delta V) with  
       tree or pole  
 (1) Not damaged  
 (2) Cracked/sheared  
 (3) Tilted < 45 degrees  
 (4) Tilted > 45 degrees  
 (5) Uprooted tree  
 (6) Separated pole from base  
 (7) Pole replaced  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown

**HEADING ANGLE AT IMPACT FOR  
HIGHEST DELTA V**

Values: (000)-(359) Code actual value  
 (997) Noncollision  
 (998) Impact with object  
 (999) Unknown

27. Heading Angle for This Vehicle \_\_\_\_\_
28. Heading Angle for Other Vehicle \_\_\_\_\_

## National Accident Sampling System – Crashworthiness Data System: General Vehicle Form

Page 3

<p>29. Basis for Total Delta V (Highest) _____</p> <p>Delta V Calculated</p> <p>(1) CRASH program – damage only routine</p> <p>(2) CRASH program – damage and trajectory routine</p> <p>(3) Missing vehicle algorithm</p> <p>Delta V Not Calculated</p> <p>(4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.</p> <p>(5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction techniques, regardless of adequacy of damage data.</p> <p>(6) All vehicles and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.</p>	<p style="text-align: right;">Secondary    Highest</p> <p style="text-align: right;">_____</p> <p>32. Lateral Component of Delta V _____</p> <p style="text-align: right;">_____ Nearest mph _____</p> <p>(NOTE: ____00 means greater than - 0.5 and less than + 0.5 mph) (+ 97) + 96.5 mph and above (__ 99) Unknown</p> <p>33. Energy Absorption _____ 0 0</p> <p style="text-align: right;">_____ Nearest 100 foot-lbs _____</p> <p>(NOTE: 0000 means less than 50 Foot-Lbs) (9997) 999,650 foot-lbs or more (9999) Unknown</p> <p>34. Confidence in Reconstruction Program Results (for Highest Delta V) _____</p> <p>(0) No reconstruction</p> <p>(1) Collision fits model – results appear reasonable</p> <p>(2) Collision fits model – results appear high</p> <p>(3) Collision fits model – results appear low</p> <p>(4) Borderline reconstruction – results appear reasonable</p> <p>35. Type of Vehicle Inspection _____</p> <p>(0) No inspection</p> <p>(1) Complete inspection</p> <p>(2) Partial inspection (specify): _____</p> <p>36. Is this an AOPS Vehicle? _____</p> <p>(0) No</p> <p>(1) Yes</p>
<b>COMPUTER GENERATED DELTA V</b>	
<p style="text-align: right;">Secondary    Highest</p> <p>30. Total Delta V _____</p> <p style="text-align: right;">_____ Nearest mph _____</p> <p>(NOTE: 00 means less than 0.5 mph) (97) 96.5 mph and above (99) Unknown</p> <p>31. Longitudinal Component of Delta V _____</p> <p style="text-align: right;">_____ Nearest mph _____</p> <p>(NOTE: ____00 means greater than - 0.5 and less than + 0.5 mph) (+ 97) + 96.5 mph and above (__ 99) Unknown</p>	<p>32. Lateral Component of Delta V _____</p> <p style="text-align: right;">_____ Nearest mph _____</p> <p>(NOTE: ____00 means greater than - 0.5 and less than + 0.5 mph) (+ 97) + 96.5 mph and above (__ 99) Unknown</p>
<p><b>*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), ***</b></p> <p><b>DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.</b></p>	



**Appendix E:**

NASS Interview Form



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

## INTERVIEW FORM

Primary Sampling Unit Number 10 Interviewee(s) Role(s) or Name(s) DRIVER AND  
Case Number - Stratum 90-02 DRIVERS BROTHER  
Vehicle Number 01

Review the Interview Cue Sheet prior to conducting interview(s) to ensure the acquisition of all pertinent data.

### GENERAL DESCRIPTION OF ACCIDENT SEQUENCE

DRIVER STATED HE HAD NO MEMORY OF WHAT OCCURRED PRIOR TO OR AFTER THE ACCIDENT. THE DRIVER'S BROTHER STATED THAT THE DRIVER HAS BEEN A DIABETIC SINCE AGE 12 AND THEY THINK THE DRIVER MAY HAVE HAD AN "INSULIN REACTION. THE DRIVER WAS UNABLE TO PROVIDE ANY DETAILS RELATIVE TO THE ACCIDENT.

### SPECIFIC QUESTIONS

Key to Researcher: Have you obtained the following through the interviewee(s) description and specific questions?

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> PRE-CRASH, AT IMPACT vehicle travel/driver intention | <input type="checkbox"/> Speed estimates (precrash/at impact) | <input type="checkbox"/> Previous vehicle damage |
| <input type="checkbox"/> Direction of travel                                  | <input type="checkbox"/> Post-impact trajectory               | <input type="checkbox"/> Glazing type            |
| <input type="checkbox"/> Avoidance maneuvers                                  | <input type="checkbox"/> Door status (precrash/postcrash)     | <input type="checkbox"/> Vehicle glazing status  |
| <input type="checkbox"/> Impact description/orientation                       | <input type="checkbox"/> Final rest position                  | <input type="checkbox"/> PAR clarifications      |
|   |   | <input type="checkbox"/> Glove box status        |

Cargo? No ☐ Yes ☐ Interviewee's Estimated Cargo Weight \_\_\_\_\_

Description of Cargo \_\_\_\_\_

Present Location of Vehicle (if not yet inspected)? INSPECTED

## National Accident Sampling System – Crashworthiness Data System: Interview Form

Page 2

## OCCUPANT DATA

Enter the occupant's seat position in the first row and complete the column below it using the information from the interviewee(s).

SEAT POSITION	FRONT LEFT			
AGE/SEX	38 / MALE			
HEIGHT (IN.)	6'			
WEIGHT (LBS.)	230			
POSTURE	UNKNOWN			
EJECTED? [ ] No [ ] Yes	No			
DESCRIBE THE EJECTION	N/A			
ENTRAPPED? [ ] No [ ] Yes	No			
DESCRIBE ENTRAPMENT				
TYPE OF RESTRAINT AVAILABLE?	AIRBAG LAP / SHOULDER BELT			
HOW WERE THE BELTS WORN?	BELTS NOT WORN			
DESCRIBE ANY RESTRAINT FAILURE MODE				
TYPE OF TREATMENT	HOSPITALIZED			
DAYS IN HOSPITAL?	STILL IN HOSPITAL			
NO. OF LOST WORK DAYS?	UNKNOWN			

## National Accident Sampling System - Crashworthiness Data System: Interview Form

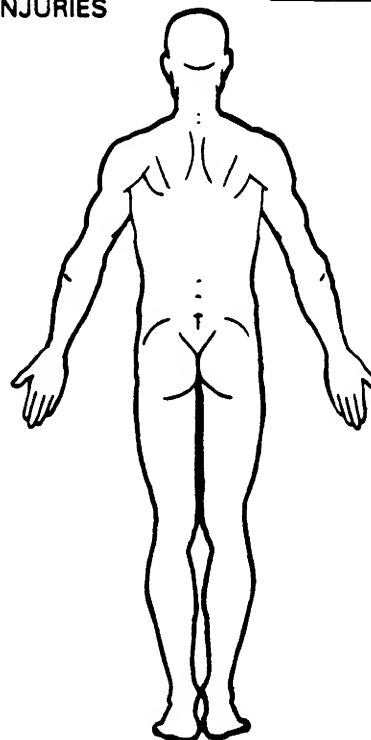
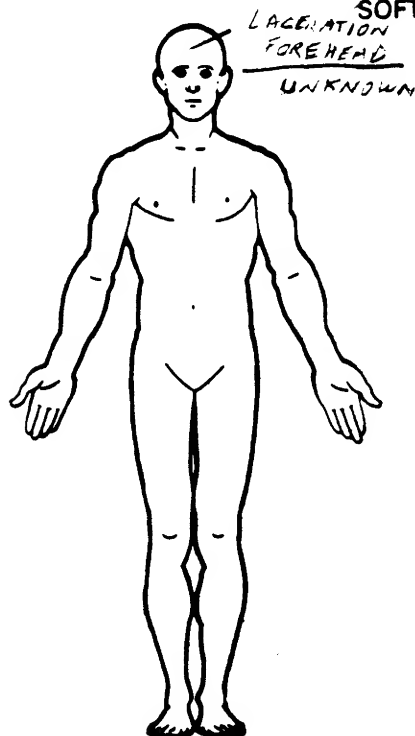
Page 3

PSU Number 12 Case Number-Stratum 90-02 Vehicle Number 01 Occupant Number 01

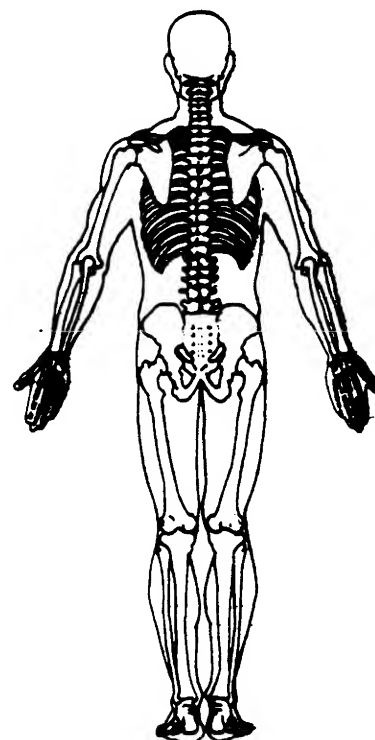
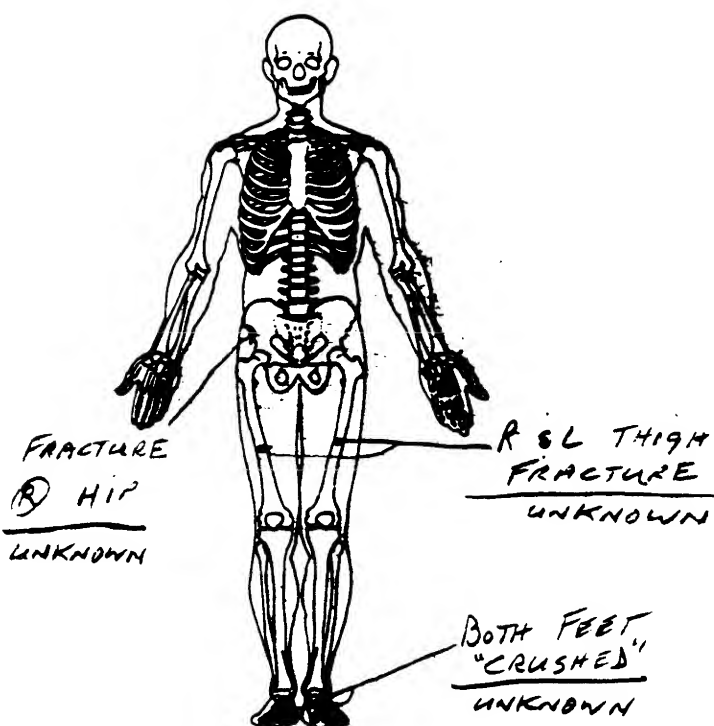
## INJURY DATA FROM INTERVIEWEE(S)

Indicate the Location, Lesion, Detail, and Source of all injuries. Specify interviewee(s): DRIVER & DRIVER'SBROTHER

## SOFT TISSUE/INTERNAL INJURIES



## SKELETAL INJURIES



The space provided on the back of this page may be used to document injuries noted by the interviewee(s).

**Appendix F:**

**NASS Occupant Forms**



## OCCUPANT ASSESSMENT FORM

1. Primary Sampling Unit Number <u>10</u>	11. Occupant's Posture <u>0</u> (0) Normal posture (1) Abnormal posture (specify): _____ (9) Unknown
2. Case Number—Stratum <u>9002</u>	
3. Vehicle Number <u>01</u>	
4. Occupant Number <u>01</u>	
<b>OCCUPANT'S CHARACTERISTICS</b>	
5. Occupant's Age <u>38</u> Code actual age at time of accident. (00) Less than one year old (specify by month): _____ (97) 97 years and older (99) Unknown	12. Ejection <u>0</u> (0) No ejection (1) Complete ejection (2) Partial ejection (3) Ejection, unknown degree (9) Unknown
6. Occupant's Sex <u>1</u> (1) Male (2) Female (9) Unknown	13. Ejection Area <u>0</u> (0) No ejection (1) Windshield (2) Left front (3) Right front (4) Left rear (5) Right rear (6) Rear (7) Roof (8) Other area (e.g., back of pickup, etc.) (specify): _____ (9) Unknown
7. Occupant's Height <u>72</u> Code actual height to the nearest inch. (99) Unknown	14. Ejection Medium <u>0</u> (0) No ejection (1) Door/hatch/tailgate (2) Nonfixed roof structure (3) Fixed glazing (4) Nonfixed glazing (specify): _____ (5) Integral structure (8) Other medium (specify): _____ (9) Unknown
8. Occupant's Weight <u>230</u> Code actual weight to the nearest pound. (999) Unknown	15. Medium Status (Immediately Prior to Impact) <u>0</u> (0) No ejection (1) Open (2) Closed (3) Integral structure (9) Unknown
9. Occupant's Role <u>1</u> (1) Driver (2) Passenger (9) Unknown	16. Entrapment <u>1</u> (NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.) (0) Not entrapped (1) Entrapped (9) Unknown
10. Occupant's Seat Position <u>11</u> Front Seat (11) Left side (12) Middle (13) Right side (14) Other (specify): _____ Second Seat (21) Left side (22) Middle (23) Right side (24) Other (specify): _____ Third Seat (31) Left side (32) Middle (33) Right side (34) Other (specify): _____ Fourth Seat (41) Left side (42) Middle (43) Right side (44) Other (specify): _____ (97) In or on unenclosed area (98) Other seat (specify): _____ (99) Unknown	

**RESTRAINT SYSTEM AND SEAT EVALUATION****17. Manual (Active) Belt System Availability** 4

- (0) Not available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available – type unknown
- (8) Other belt (specify): \_\_\_\_\_

(9) Unknown

**18. Manual (Active) Belt System Use** 00

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify): \_\_\_\_\_

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used – type unknown
- (08) Other belt used (specify): \_\_\_\_\_

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat – type unknown
- (18) Other belt used with child safety seat (specify): \_\_\_\_\_
- (99) Unknown if belt used

**19. Proper Use of Manual (Active) Belts** 0

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

- Belt Used Improperly
- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

- (8) Other improper use of manual belt system (specify): \_\_\_\_\_

(9) Unknown

**20. Manual (Active) Belt Failure Modes During Accident** 0

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_

- (6) Broken retractor
- (7) Combination of above (specify): \_\_\_\_\_

- (8) Other manual belt failure (specify): \_\_\_\_\_

(9) Unknown

**21. Automatic (Passive) Restraint System Availability** 1

- (0) Not equipped/not available
- (1) Airbag
- (2) Airbag disconnected (specify): \_\_\_\_\_

- (3) Airbag not reinstalled
- (4) 2 point automatic belts
- (5) 3 point automatic belts
- (6) Automatic belts destroyed or rendered inoperative
- (9) Unknown

**22. Automatic (Passive) Restraint Function** 4

- (0) Not equipped/not available

**Automatic Belt**

- (1) Automatic belt in use
- (2) Automatic belt not in use
- (3) Automatic belt use unknown

**Air Bag**

- (4) Airbag deployed during accident
- (5) Airbag deployed inadvertently just prior to accident
- (6) Deployed, accident sequence undetermined
- (7) Nondeployed
- (8) Unknown if deployed
- (9) Unknown

**23. Did Automatic (Passive) Restraint Fail?** 2

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): BAG PROPERLY DEPLOYED BUT LEFT SEAM OF BAG RUPTURED
- (9) Unknown

**24. Police Reported Restraint Use** 1

- (0) None used
- (1) Police did not indicate restraint use
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt used, type not specified
- (6) Child safety seat
- (7) Other or automatic restraint (specify): AIR BAG

- (8) Restrained, type unknown
- (9) Police indicated "unknown"

**25. Head Restraint Type/Damage by Occupant at This Occupant Position** 3

- (0) No head restraints
- (1) Integral – no damage
- (2) Integral – damaged during accident
- (3) Adjustable – no damage
- (4) Adjustable – damaged during accident
- (5) Add-on – no damage
- (6) Add-on – damaged during accident
- (8) Other (specify): \_\_\_\_\_

(9) Unknown

## National Accident Sampling System – Crashworthiness Data System: Occupant Assessment Form

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**26. Seat Type (This Occupant Position)** 02

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., van type)
- (09) Other seat type (specify):

(99) Unknown

**27. Seat Performance (This Occupant Position)** 7

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks failed
- (4) Seat track/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify):

- (7) Combination of above (specify): SEAT TRACK DAMAGED. SEAT APPEARS DEFORMED BY INTRUSION AS WELL AS
- (8) Other (specify): OCCUPANT IMPACT (FROM REBOUND)
- (9) Unknown

**30. Child Safety Seat Orientation** 00

- (00) No child safety seat

Designed for Rear Facing for This Age/Weight

- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify):

(09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify):

(19) Unknown orientation

Unknown Design or Orientation for This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify):

(29) Unknown orientation

(99) Unknown if child safety seat used

**31. Child Safety Seat Harness Usage** 00**32. Child Safety Seat Shield Usage** 00**33. Child Safety Seat Tether Usage** 00

Note: Options below applicable to Variables OA31-OA33.

- (00) No child safety seat

Not Designed with  
Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed with Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed with Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

**CHILD SAFETY SEAT****28. Child Safety Seat Make/Model** 000

- (000) No child safety seat
- Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual
- (997) Other make/model (specify):

(998) Unknown make/model

(999) Unknown if child safety seat used

**29. Type of Child Safety Seat** 0

- (0) No child safety seat
- (1) Infant seat
- (2) Toddler seat
- (3) Convertible seat
- (4) Booster seat
- (7) Other type child safety seat (specify):

(8) Unknown child safety seat type

(9) Unknown if child safety seat used



## INJURY CONSEQUENCES

34. Injury Severity (Police Rating) 3

- (0) O – No injury
- (1) C – Possible injury
- (2) B – Nonincapacitating injury
- (3) A – Incapacitating injury
- (4) K – Killed
- (5) U – Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

35. Treatment – Mortality 3

- (0) No treatment
- (1) Fatal
- (2) Fatal – ruled disease
- Nonfatal
- (3) Hospitalized
- (4) Transported and released
- (5) Treatment at scene – nontransported
- (6) Treatment later
- (8) Treatment – other (specify): \_\_\_\_\_
- (9) Unknown

36. Type of Medical Facility (for Initial Treatment) 2

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify): \_\_\_\_\_
- (9) Unknown

37. Hospital stay 61

- 75 Code number of days (up through 60) that the occupant stayed in the hospital
- (00) Not hospitalized
  - (61) 61 days or more
  - (99) Unknown

38. Working Days Lost 61

- \_\_\_\_ Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
  - (61) 61 days or more
  - (62) Fatally injured
  - (97) Not working prior to accident
  - (99) Unknown

39. Time to Death 00

- \_\_\_\_ Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
- (00) Not fatal
  - (96) Fatal – ruled disease
  - (99) Unknown

40. 1st Medically Reported Cause of Death 0041. 2nd Medically Reported Cause of Death 0042. 3rd Medically Reported Cause of Death 00

- \_\_\_\_ Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
- (00) Not fatal or no additional causes
  - (97) Other result (specify): \_\_\_\_\_
  - (99) Unknown

43. Number of Recorded Injuries for This Occupant 20

- 20 Code the actual number of injuries recorded for this occupant.
- (00) No recorded injuries
  - (97) Injured, details unknown
  - (99) Unknown if injured

UPDATE CANDIDATE

NO ☒

YES [ ]

\*\*\* STOP HERE \*\*\*

IF THERE ARE NO RECORDED INJURIES

(I.E., OA43=00, 97, 99)



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

Form Approved  
O.M.B. No. 2127-0021  
NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

## OCCUPANT INJURY FORM

1. Primary Sampling Unit Number

10

3. Vehicle Number

01

2. Case Number—Stratum

9002

4. Occupant Number

01

### INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

		O.I.C.—A.I.S.									
	Source of Injury Data	Body Region	Aspect	Lesion	System Organ	A.I.S. Severity	Injury Source	Injury Source Confidence Level	Direct/Indirect Injury	Occupant Area Intrusion No.	
1st	5. <u>2</u>	6. <u>C</u>	7. <u>L</u>	8. <u>C</u>	9. <u>P</u>	10. <u>3</u>	11. <u>06</u>	12. <u>1</u>	13. <u>1</u>	14. <u>06</u>	
2nd	15. <u>2</u>	16. <u>C</u>	17. <u>L</u>	18. <u>F</u>	19. <u>S</u>	20. <u>4</u>	21. <u>06</u>	22. <u>1</u>	23. <u>1</u>	24. <u>06</u>	
3rd	25. <u>2</u>	26. <u>T</u>	27. <u>R</u>	28. <u>F</u>	29. <u>S</u>	30. <u>3</u>	31. <u>09</u>	32. <u>1</u>	33. <u>2</u>	34. <u>04</u>	
4th	35. <u>2</u>	36. <u>T</u>	37. <u>L</u>	38. <u>F</u>	39. <u>S</u>	40. <u>3</u>	41. <u>09</u>	42. <u>1</u>	43. <u>2</u>	44. <u>04</u>	
5th	45. <u>2</u>	46. <u>P</u>	47. <u>R</u>	48. <u>F</u>	49. <u>S</u>	50. <u>2</u>	51. <u>09</u>	52. <u>1</u>	53. <u>2</u>	54. <u>04</u>	
6th	55. <u>2</u>	56. <u>P</u>	57. <u>L</u>	58. <u>F</u>	59. <u>S</u>	60. <u>2</u>	61. <u>09</u>	62. <u>1</u>	63. <u>2</u>	64. <u>04</u>	
7th	65. <u>2</u>	66. <u>P</u>	67. <u>A</u>	68. <u>F</u>	69. <u>S</u>	70. <u>2</u>	71. <u>09</u>	72. <u>1</u>	73. <u>2</u>	74. <u>04</u>	
8th	75. <u>2</u>	76. <u>B</u>	77. <u>S</u>	78. <u>F</u>	79. <u>S</u>	80. <u>2</u>	81. <u>06</u>	82. <u>2</u>	83. <u>2</u>	84. <u>06</u>	
9th	85. <u>2</u>	86. <u>Q</u>	87. <u>R</u>	88. <u>Z</u>	89. <u>J</u>	90. <u>2</u>	91. <u>56</u>	92. <u>2</u>	93. <u>1</u>	94. <u>01</u>	
10th	95. <u>2</u>	96. <u>Q</u>	97. <u>R</u>	98. <u>Z</u>	99. <u>J</u>	100. <u>2</u>	101. <u>56</u>	102. <u>2</u>	103. <u>1</u>	104. <u>01</u>	

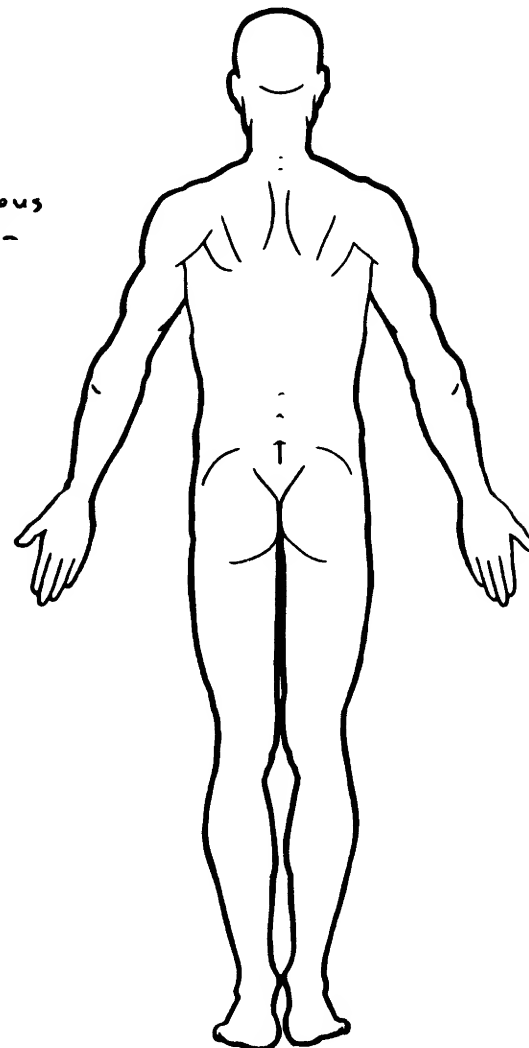
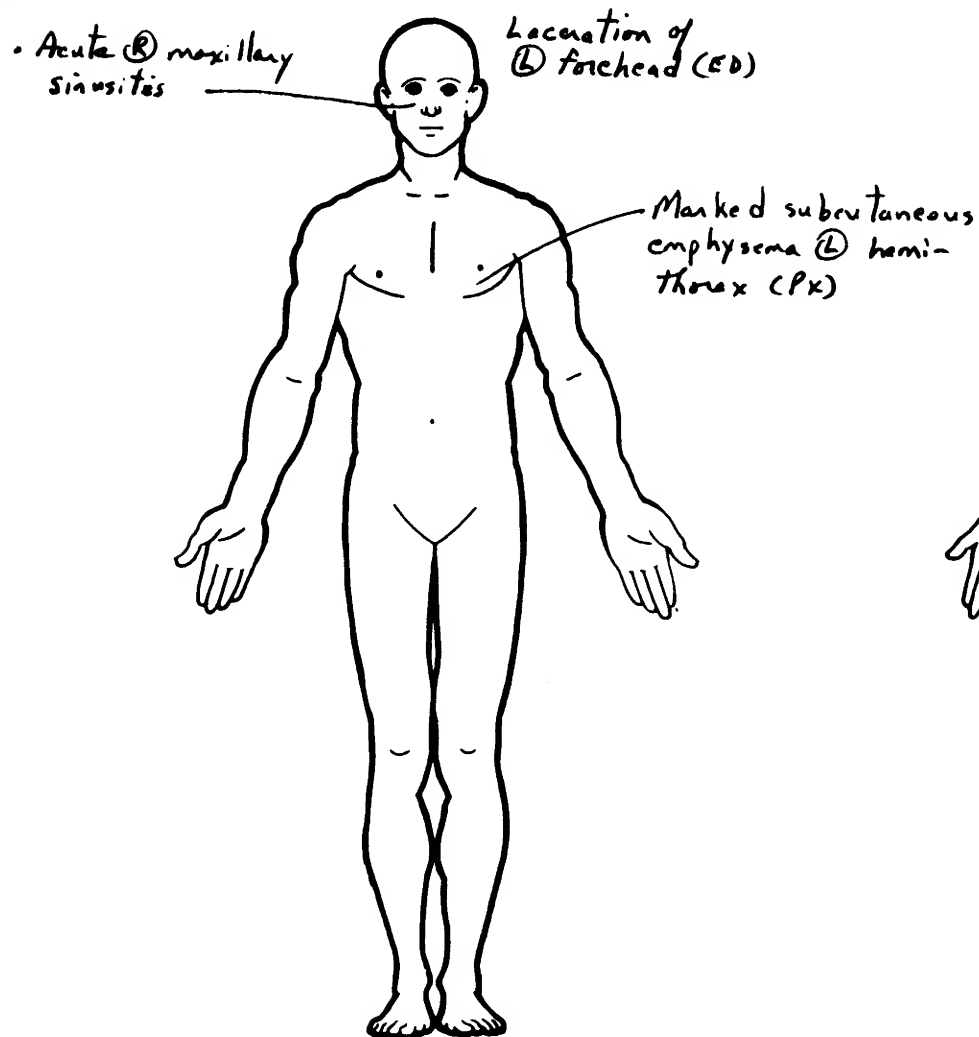
## OCCUPANT INJURY DATA

	Source of Injury Data	Body Region	Aspect	Lesion	System Organ	A.I.S. Severity	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion No.
11th	<u>2</u>	<u>Q</u>	<u>R</u>	<u>B</u>	<u>J</u>	<u>2</u>	<u>56</u>	<u>2</u>	<u>1</u>	<u>01</u>
12th	<u>2</u>	<u>Q</u>	<u>R</u>	<u>Z</u>	<u>J</u>	<u>2</u>	<u>56</u>	<u>2</u>	<u>1</u>	<u>01</u>
13th	<u>2</u>	<u>Q</u>	<u>R</u>	<u>F</u>	<u>S</u>	<u>2</u>	<u>56</u>	<u>2</u>	<u>1</u>	<u>01</u>
14th	<u>2</u>	<u>Q</u>	<u>R</u>	<u>F</u>	<u>S</u>	<u>2</u>	<u>56</u>	<u>2</u>	<u>1</u>	<u>01</u>
15th	<u>2</u>	<u>Q</u>	<u>R</u>	<u>D</u>	<u>J</u>	<u>1</u>	<u>56</u>	<u>2</u>	<u>1</u>	<u>01</u>
16th	<u>2</u>	<u>Q</u>	<u>L</u>	<u>F</u>	<u>S</u>	<u>2</u>	<u>56</u>	<u>2</u>	<u>1</u>	<u>01</u>
17th	<u>2</u>	<u>Q</u>	<u>L</u>	<u>F</u>	<u>S</u>	<u>2</u>	<u>56</u>	<u>2</u>	<u>1</u>	<u>01</u>
18th	<u>2</u>	<u>Q</u>	<u>L</u>	<u>F</u>	<u>S</u>	<u>2</u>	<u>56</u>	<u>2</u>	<u>1</u>	<u>01</u>
19th	<u>3</u>	<u>F</u>	<u>S</u>	<u>L</u>	<u>I</u>	<u>1</u>	<u>22</u>	<u>3</u>	<u>1</u>	<u>02</u>
20th	<u>2</u>	<u>H</u>	<u>U</u>	<u>U</u>	<u>U</u>	<u>7</u>	<u>22</u>	<u>3</u>	<u>1</u>	<u>02</u>
21st	-	-	-	-	-	-	--	-	-	--
22nd	-	-	-	-	-	-	--	-	-	--
23rd	-	-	-	-	-	-	--	-	-	--

## OFFICIAL INJURY DATA – SOFT TISSUE INJURIES

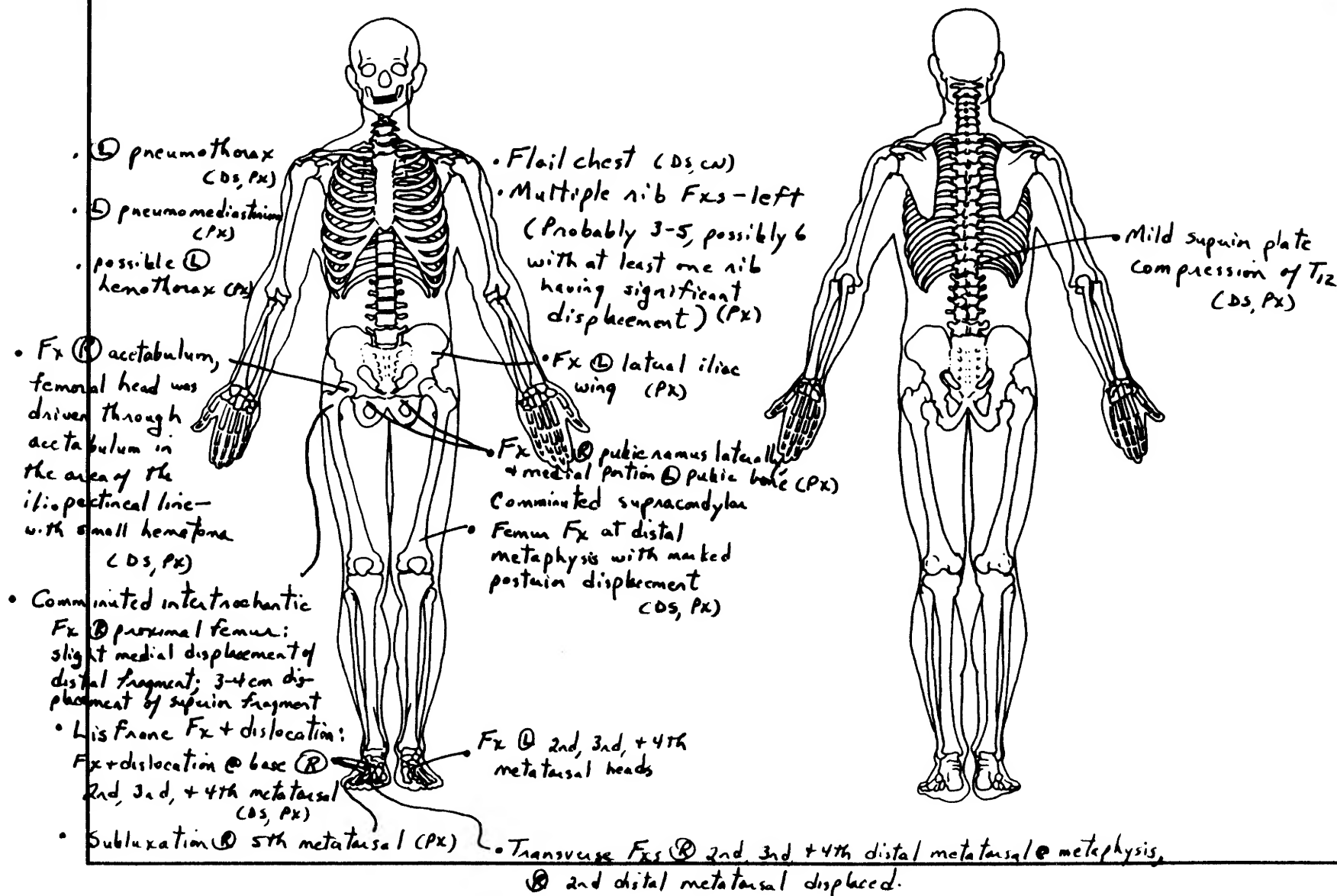
*Shock on arrival ER (DS)*

Indicate the *Location, Lesion, Detail* (size, depth, fracture type, head injury clinical signs and neurological deficits), and *Source* of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

*Multiple trauma to head (DS)*

## OFFICIAL INJURY DATA – SKELETAL INJURIES

Indicate the Location, Lesion, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

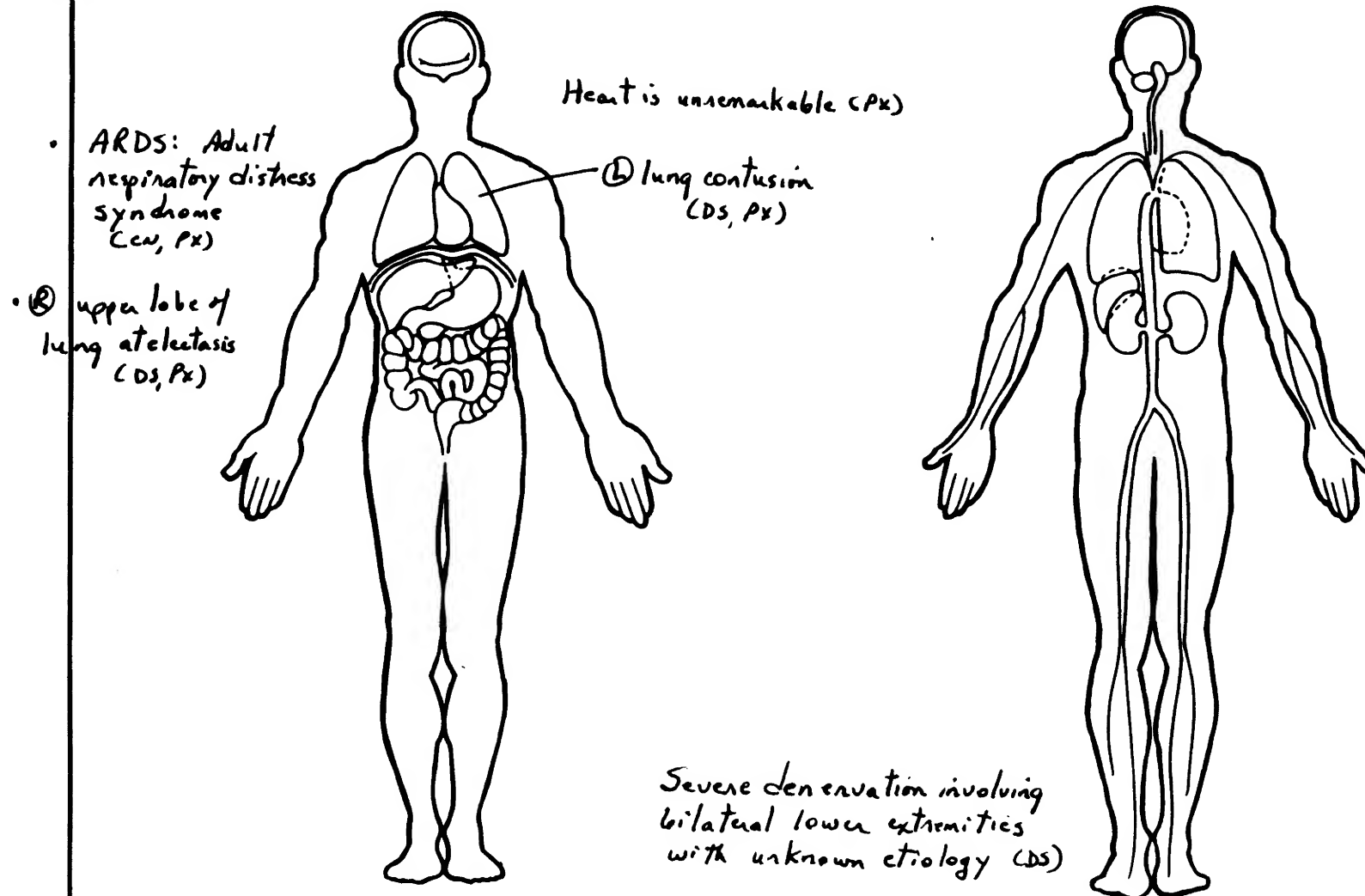


## OFFICIAL INJURY DATA – INTERNAL INJURIES

Indicate the *Location, Lesion, Detail* (size, depth, fracture type, head injury clinical signs and neurological deficits), and *Source* of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

• Anemia (CW)

• Semi-conscious on arrival (DS)



## MEDICAL RECORD (OUTPATIENT RECORD)

PATIENT ACCT. NO.	PT. CL.	RELIGION	HOW ARRIVED	ADMIT NO.	MED. HIST. NO.
			AMB		
DATE	NAME/ADDRESS/CITY-STATE		FAMILY PHYSICIAN		REF. PHY/CTY
10/90					
SIGN IN	TELEPHONE	BIRTHDATE	AGE	ATTENDING PHYSICIAN	EMERG. PHYSICIAN
2045		10/51			A
ENTERED ED.	SEX / RACE / MAR. ST.	GEOG CODE		CHIEF COMPLAINT	
	M			MVA	
SEEN BY M.D.	NEAREST RELATIVE		CONDITION ON ARRIVAL		
			GOOD <input type="checkbox"/> FAIR <input type="checkbox"/> SERIOUS <input checked="" type="checkbox"/>		

HOW TRANS TO X-RAY	CART <input type="checkbox"/> WALK <input type="checkbox"/> WHEELCHAIR <input type="checkbox"/> CARRIED <input type="checkbox"/>	ARM BAND NO.	ALLERGIES		
VITAL SIGNS	TIME	TEMP. OR	PULSE	RESP.	BLOOD PRESS.
WEIGHT	TIME	TEMP. OR	PULSE	RESP.	BLOOD PRESS.
CURRENT MEDICATION	Insulin 30 units 10mg qd.				TETANUS BASIC SERIES LAST BOOSTER
NURSING ASSESSMENT: Patient driver of car involved in head on crash semi. Patient awake but c/o severe pain to both lower legs & chest. See frequent VS sheet.					

HISTORY AND PHYSICAL:	SIGNATURE
Involved in MVA. Driver of car which hit gas truck. Apparently car got off left of hydraulic major mechanical damage. On admission he was unresponsive. Conscious. Breathing on own - able to move both feet & follow simple commands. There is a laceration of left forehead. No blood from wound. Called guard to examine neck. No abnormality. Left leg & right leg both poor with some left. Hip flex white. Abdom left by chair.	Follow simple commands Laceration of forehead

DIAGNOSIS:
REFERRAL: General Surgery
INSTRUCTIONS GIVEN: HEAD INJURY <input type="checkbox"/> WOUND SUTURE <input type="checkbox"/> SPRAINS AND STRAINS <input type="checkbox"/> FEVER CONTROL <input type="checkbox"/> STREP <input type="checkbox"/>
OTHER <input type="checkbox"/> 2 prs statif Holt or statif

HOME <input type="checkbox"/> CLINIC <input type="checkbox"/> OTHER <input checked="" type="checkbox"/> ADMIT	EXPIRED <input type="checkbox"/> IMPROVED <input type="checkbox"/> UNCHANGED <input type="checkbox"/> DISCHARGE
---	---

DISCHARGE NURSE'S SIGNATURE

MEDICAL RECORDS

[REDACTED]  
-90

Rm: [REDACTED]

[REDACTED] M.D.

#### CONSULTATION

This is a 38-year-old male who was involved in a motor vehicle accident in [REDACTED], sustaining severe multiple fractures, flail chest, ARDS requiring long term ventilatory support. He has been up on the [REDACTED] floor for two to three weeks participating in the physical therapy program. I was asked to see him today because of shortness of breath. Actually, the patient has been complaining of some shortness of breath for several days and has displayed lack of endurance and fatigability over a several day period. This is confirmed by his brother who has been in attendance with him. Also by the nurses and physical therapists. This has been a change apparently over his previous activity level. He has had no chest tightening, hemoptysis and has had no other complaints of purulent sputum, fever or chills. He has been somewhat constipated and had some enemas over the weekend with large returns. There is no history of black stools or melena.

#### PHYSICAL EXAM

GENERAL: He is very pale, including mucous membranes and nailbeds.

CHEST: Shows a few scattered rales, otherwise clear. No rub.

HEART: RSR, mild tachycardia. No murmurs, no clinical evidence of phlebitis of the legs or DVT.

LABORATORY: The arterial blood gases today showed a pO<sub>2</sub> of 68 mm of mercury on room air. The x-ray is repeated and shows the ARDS is largely resolved, but there is some residual. No new findings are noted. No pleural effusion. Hemoglobin is reported at 4.7, red count 1,500,000, white count 17,000, platelet counts of 500+ thousand.

#### IMPRESSION:

1. Severe anemia, cause undetermined.
2. Resolving adult respiratory distress syndrome.

I feel that his complaints are related to his anemia and not due to any pulmonary problem at this time. I did a rectal examination and there is no stool in the rectal ampulla to check. I would recommend that all stools be checked for Hemoccult. He may receive packed cell transfusions to get his hemoglobin in the area of 10 gm%. Anemia may need to be further investigated. Suggest reticulocyte count and review of his current medications for any evidence of drugs that might cause hemolysis or bone marrow suppression.



[REDACTED] M.D.

#### DISCHARGE SUMMARY

ADMITTED: [REDACTED]-90  
DISCHARGED: [REDACTED]-90

#### DISCHARGE DIAGNOSES:

1. Multiple trauma following a motor vehicle accident.
2. Right acetabular fracture.
3. Right subtrochanteric fracture.
4. Left supracondylar femur fracture.
5. Right Lisfranc fracture dislocation.
6. Right second and third metatarsal fractures.
7. Multiple rib fractures with pulmonary contusion.

#### OTHER DIAGNOSES:

1. Right upper lobe atelectasis.
2. Left pneumothorax.
3. Lung contusion.
4. Respiratory failure secondary to left flail chest.

#### OPERATIONS, SPECIAL INVASIVE PROCEDURES AND TREATMENTS:

1. On [REDACTED]-90, the patient underwent a therapeutic bronchoscopy.
2. On [REDACTED]-90, the patient underwent open reduction and internal fixation of the left distal femur with iliac crest bone grafting, intramedullary rodding of the right proximal femur, open reduction and internal fixation of the second metatarsal neck and base fractures, and third metatarsal neck fracture.
3. On [REDACTED]-90, the patient underwent tracheostomy with tube placement.

#### COMPLICATIONS:

1. On [REDACTED]-90, the patient developed severe denervation involving bilateral lower extremities with unknown etiology.
2. Other complications as noted above in other diagnoses.

HISTORY AND PHYSICAL EXAMINATION: This was a 38-year-old male who presented through the emergency room on [REDACTED]-90 post motor vehicle accident. The patient was admitted with multiple trauma to the chest, pelvic region and bilateral lower extremities. The patient presented in shock and in a semi-conscious state. The patient was stabilized in the operating room and was admitted to [REDACTED] Hospital for further evaluation and stabilized condition.

Physical examination at the time of admission again showed multiple trauma to the head, chest, pelvis and bilateral lower extremities.

HOSPITAL STUDIES: A Doppler venous examination of the lower extremities performed on [REDACTED]-90 showed no evidence of venous occlusive disease. Evoked potentials on exam performed on [REDACTED]-90 showed a conduction block

[REDACTED]

Discharge Summary Page 2

making responses at the popliteal, spinal or cortical levels unobtainable. This was believed to be a block at the peripheral level bilaterally. The EKG performed on [REDACTED]-90 showed sinus tachycardia with right bundle branch block, atypical repolarization changes and ST elevation suggestive of inferior injury or acute infarct. The EKG performed on [REDACTED]-90 showed sinus tachycardia, complete right bundle branch block and nonspecific T-wave abnormality in the inferior leads.

Laboratory studies on admission showed a decreased blood count which remained low throughout the hospital stay, although this was believed to have been within stable limits on discharge. Cardiac profile performed on [REDACTED]-90 was not suggestive of diagnostic acute MI. All other lab studies were stable.

Chest films performed on [REDACTED]-90 showed bilateral parenchymal density most likely secondary to old RDS, fluid overload, and showed a stable chest. Chest films performed on [REDACTED]-90 showed a possible chest wall contusion. Abdominal plain films performed on [REDACTED]-90 showed moderate diffuse colonic gaseous distention with no significant small bowel distention. Chest film performed on [REDACTED]-90 showed an abnormality and most likely a hemothorax from adjacent rib fractures. Sinus plain films performed on [REDACTED]-90 showed acute right maxillary sinusitis. Upper abdominal ultrasound performed on [REDACTED]-90 was nondiagnostic for acute acalculous cholecystitis. Chest and abdominal films performed on [REDACTED]-90 showed overall appearance to be stable with tubes and catheters in place.

The CT scan of the abdomen and pelvis performed on [REDACTED]-90 showed no acute abnormalities. Plain films performed on [REDACTED]-90 showed a mild superior plate compression of T12 with healing fractures in the pelvis and proximal right femur as well as the distal left femur. Fragments were also evident on the second and third metatarsals of the right foot. On [REDACTED]-90, plain films showed good position of all fractures and fixation devices. Upper GI series performed on [REDACTED]-90 showed a normal upper GI. Ultrasound of the Achilles tendons performed on [REDACTED]-90 showed both Achilles tendons to be intact. Plain films performed on [REDACTED]-90 showed all fractures to be healing with a disruption of the second metatarsal on the right in respect to the first secondary to ligamentous injury. There also was evident widening of the hip joint on the right without definitive etiology.

CONSULTATIONS:

1. Dr. [REDACTED]
2. Dr. [REDACTED]
3. Dr. [REDACTED]
4. Dr. [REDACTED]
5. Dr. [REDACTED]
6. Neuropsych evaluation.
7. Dr. [REDACTED] for hematology.
8. Dr. [REDACTED]
9. Pulmonary medicine.
10. Endocrinology.
11. Cardiology.
12. Gastrointestinal service.

[REDACTED]  
Discharge Summary Page 3

HOSPITAL COURSE: This patient was admitted on [REDACTED]-90 following a motor vehicle accident with multiple trauma to the head, chest, pelvis and lower extremities. The patient was stabilized after being admitted to [REDACTED] Hospital and underwent several orthopedic operative procedures. The patient did well postoperatively and participated in the physical therapy program. The patient at this time transfers with minimal to moderate assist of one with a walker. The patient was discharged to the [REDACTED] in [REDACTED] Oregon on [REDACTED]-90 in stable condition.

[REDACTED]  
[REDACTED] M.D. / [REDACTED]  
Dictated by [REDACTED] P.A.

cc: [REDACTED] M.D.  
cc: Attn. [REDACTED]

[REDACTED]  
[REDACTED] Oregon [REDACTED]

DD: [REDACTED] 90 DT: [REDACTED]-90

## **Radiographic Records:**

Initial Evaluation

## DEPARTMENT of RADIOLOGY

RM: [REDACTED]

EXAM DATE: [REDACTED] 90

HIST: [REDACTED]

REQUESTING M.D.: [REDACTED]

PORTABLE AP SUPINE CHEST, SINGLE LEFT FEMUR, RIGHT FEMUR SINGLE VIEW, CROSSTABLE LATERAL CERVICAL SPINE, AP SUPINE PELVIS AT [REDACTED] HOURS ON [REDACTED] /90;

LEFT FEMUR AND RIGHT FEMUR, AP SUPINE PELVIS;  
THERE IS A COMMINUTED FRACTURE AT THE DISTAL METAPHYSIS OF THE LEFT DISTAL FEMUR. MULTIPLE FRAGMENTS ARE PRESENT. THERE IS MARKED POSTERIOR DISPLACEMENT OF THE DISTAL FRACTURE FRAGMENTS WITH RESPECT TO THE PROXIMAL FEMORAL FRACTURE FRAGMENT THOUGH THE RELATIONSHIP OF THE DISTAL FRACTURE FRAGMENTS TO THE LEFT KNEE JOINT SPACE ARE DIFFICULT TO EVALUATE ON THIS ONE SINGLE VIEW. THERE IS ALSO NOTED TO BE AN INTERTROCHANTERIC FRACTURE OF THE PROXIMAL LEFT FEMUR WITH MODERATE MEDIAL ANGULATION OF THE DISTAL FRACTURE FRAGMENT WITH RESPECT TO THE PROXIMAL FRACTURE FRAGMENT. THE FEMORAL HEAD HAS BEEN DRIVEN THROUGH THE ACETABULUM CAUSING A FRACTURE OF THE PELVIS RING IN THE AREA OF THE ACETABULUM. SI JOINTS ARE NORMAL AND NO FRACTURE OF THE SYMPHYSIS PUBIS. PROXIMAL RIGHT FEMUR HAS A NORMAL APPEARANCE.

## IMPRESSION:

THE ABOVE VIEWS ARE NOT COMPLETE AND WHEN POSSIBLE THE PATIENT SHOULD HAVE COMPLETE VIEWS OF THE FEMUR AT 90 DEGREES TO EACH OTHER. AGAIN NOTED IS THE SEVERE COMMUNUTED FRACTURE OF THE DISTAL FEMUR AS DESCRIBED ABOVE AS WELL AS THE INTERTROCHANTERIC FRACTURE OF THE PROXIMAL LEFT FEMUR AND THE PELVIC FRACTURE OF THE LEFT ACETABULUM SINCE THE FEMORAL HEAD HAS BEEN DRIVEN THROUGH IT AND IT IS IMPINGING SLIGHTLY ON THE SOFT TISSUE OF THE PELVIS WITH SOME SOFT TISSUE EFFECT MOST LIKELY SECONDARY TO SOME BLOOD IN THIS AREA.

## PORTABLE AP SUPINE CHEST;

THE CARDIAC SILHOUETTE IS MILDLY PROMINENT BUT THERE IS A POORER INSPIRATION WITH MARKED SUBCUTANEOUS EMPHYSEMA IN THE LEFT HEMITHORAX IS PRESENT. THERE WAS SOME PLEURAL THICKENING PRESENT IN THE LEFT LUNG. SOME MINIMAL BLUNTING OF THE LEFT COSTOPHRENIC ANGLE IS PRESENT. I THINK THAT THERE ARE SOME RIB FRACTURES PRESENT ON THIS EXAMINATION BUT THEY ARE DIFFICULT TO IDENTIFY DUE TO OVERLYING SUBCUTANEOUS EMPHYSEMA WITH SLIGHT UNDERPENETRATION. I DO NOT IDENTIFY A PNEUMOTHORAX IN THE RIGHT LUNG AT THIS TIME BUT AGAIN IT IS BEING OBSCURED BY OVERLYING SUBCUTANEOUS TISSUES.

## IMPRESSION:

SUBCUTANEOUS EMPHYSEMA OVER THE LEFT HEMITHORAX OBSCURING LEFT HEMITHORAX. I DO NOT SEE A DEFINITE PNEUMOTHORAX AT THIS TIME THOUGH THERE IS INDICATIONS OF MULTIPLE RIB FRACTURES WHICH ARE HARD TO DELINEATE DUE TO THE OVERLYING AIR AS WELL AS SOME PLEURAL THICKENING WHICH PROBABLY REPRESENTS SOME PLEURAL EFFUSION AND POSSIBLY HEMOTHORAX.

I AM SEEING SOME MEDIASTINAL AIR ADJACENT TO THE TRACHEA ON THE LEFT SIDE SUPERIOR TO THE MEDIAL LEFT SIDE OF THE CLAVICLE. THIS COULD REPRESENT SOME AIR WITHIN THE ESOPHAGUS SINCE THIS FILM IS ROTATED BUT I CANNOT BE SURE.

CROSSTABLE LATERAL CERVICAL SPINE;  
 FILM WAS MODERATELY OVERPENETRATED. ONLY UP TO THE C5 VERTEBRAL BODY IS PRESENT AND C6 AND C7 ARE NOT WELL VISUALIZED. ALIGNMENT IS NORMAL. THE RELATIONSHIP OF THE DENS TO THE ANTERIOR ARCH OF C1 IS NORMAL. THERE IS NOTED TO BE SOME AIR IN THE INTERPHARYNGEAL SOFT TISSUES. RELATIONSHIP OF THE VISUALIZED FACETS TO EACH OTHER ARE NORMAL AND THE RELATIONSHIP OF THE DENS TO THE ANTERIOR ARCH OF C1 IS NORMAL. THERE IS NOTED TO BE A LINEAR DENSITY IN FRONT OF THE INTERVERTEBRAL DISC SPACE AT C2-3. THIS COULD JUST REPRESENT TRAUMA. THIS DOES NOT HAVE THE APPEARANCE OF AN ACUTE FRACTURE BUT IT IS AN ATYPICAL APPEARANCE FOR A DENSITY IN THIS AREA. SUGGEST THAT WHEN CLINICALLY POSSIBLE THAT A COMPLETE CERVICAL SPINE VIEWS BE OBTAINED INCLUDING THE C6 AND C7 VERTEBRAL BODY.

EXAM DATE: 11/90 HIST:   
 RM: REQUESTING M.D.:

PORTABLE LATERAL RIGHT FOOT ONLY, AP ABDOMEN, PA AND LATERAL SKULL VIEWS 11/90;

PORTABLE RIGHT FOOT;  
 OTHER VIEWS WERE NOT OBTAINED DUE TO CONDITION OF THE PATIENT. THE LATERAL VIEW SHOWS NO EVIDENCE OF FRACTURES OR DISLOCATIONS OR SOFT TISSUE SWELLING.

IMPRESSION:  
 NORMAL LATERAL VIEW OF THE RIGHT FOOT. SUGGEST THAT COMPLETE VIEWS OF THE RIGHT FOOT BE OBTAINED IN ORDER TO GET COMPLETE EVALUATION WHEN THE PATIENT IS CLINICALLY ABLE TO.

PA AND LATERAL SKULL;  
 THERE ARE OVERLYING WIRES ON THE SKULL AS WELL AS POSTERIORLY. THIS IS OBSCURING THE EXAMINATION PARTIALLY. SOME OF THE SOFT TISSUES ARE CUT OFF OF THE FILM. NASOGASTRIC TUBE IS TRAVERSING THE NASOPHARYNGEAL PASSAGE. I DO NOT SEE AIR FLUID LEVELS. I DO NOT SEE INTRACRANIAL AIR. THE AP VIEW IS ESSENTIALLY A WATERS VIEW AND I DO NOT SEE AIR FLUID LEVELS IN THE MAXILLARY SINUSES. I SEE NO OBVIOUS FRACTURES ON THIS EXAMINATION BUT WHEN CLINICALLY ABLE SUGGEST A COMPLETE ADEQUATE SKULL VIEWS BE OBTAINED INCLUDING ALL VIEWS WITH NO OBSCURATION OF PORTIONS OF THE EXAMINATION.

AP ABDOMEN;  
 FILM IS MILDLY UNDERPENETRATED. NASOGASTRIC TUBE IS IN PLACE WITH THE TIP IN THE BODY OF THE STOMACH. I DO NOT SEE DILATED LARGE OR SMALL BOWEL GAS PATTERN. THERE IS A RECTANGULAR LUCENCY OVERLYING THE LEFT ABDOMEN AREA WHICH I THINK IS MOST LIKELY AN ARTIFACT OF SOME TYPE. THERE ARE ALSO OTHER ARTIFACTS PRESENT Laterally ON THE LEFT SIDE OF THE LUNG. I KNOW THIS IS OBSCURING THE EXAMINATION BUT I DO NOT SEE ANY EVIDENCE OF AN ILEUS OR OBSTRUCTION. SI JOINTS HAVE A NORMAL APPEARANCE. THERE IS VERY MILD LUMBAR SCOLIOSIS WITH CONVEXITY TO THE RIGHT. I DO NOT SEE ANY OBVIOUS FRACTURES IN THE BONY STRUCTURES THAT I AM VISUALIZING. SUGGEST THAT ADEQUATE KUB WITH SLIGHTLY BETTER PENETRATION AND WITHOUT ARTIFACTS BE PERFORMED WHEN CLINICALLY POSSIBLE.

\_\_\_\_\_  
 \_\_\_\_/90 \_\_\_\_\_ MD  
 \_\_\_\_\_

Clinical: 38 y/o male. Trauma.

<CT Scan of Thorax, Abdomen & Pelvis>:

We were only able to get a very small amount of contrast orally via NG tube. Intravenous contrast was utilized, 190 cc of Omnipaque 240. Images were obtained beginning at the top of the aorta arch and continuing to the pubic symphysis.

In the portion of the thorax imaged the most striking finding is large amount of subcutaneous emphysema present predominantly over the left chest wall. There are multiple rib fractures with depression of the left chest wall anterior and laterally indicating flail chest. Significant distraction of several of the fractured ribs can be appreciated. A left chest tube is in place with the tip located near the aortic arch. Several areas of parenchymal increased density are exhibited in the left lung. Specifically, in the superior segment of the lower lobe and perhaps adjacent lower lobe segments. The appearance suggests atelectasis and/or contusion. There is also an area appreciated in the lingular segment which most likely represents contusion. There is also left pleural fluid. Left pneumothorax remains predominantly anterior to the left lung and against the mediastinum. I do not definitely appreciate evidence for mediastinal hematoma. The margins of the aorta appear to be well defined with the exception of the area of contusion, atelectasis near the chest tube tip. More proximally and distally to this, however, the aorta appears to be satisfactory in appearance. On the right there are no findings to suggest pneumothorax. There are, however, areas of increased attenuation in the lower lung and pleural fluid, again suggesting contusion and/or areas of atelectasis and retained secretions. The upper lobe appears to be satisfactory. Imaging in the abdomen does not reveal any focal defect of the liver, gallbladder, spleen, kidneys, or pancreas. I do not definitely observe findings to suggest mesenteric or significant bowel hematoma. We do note atherosclerotic calcification of the abdominal aorta. No other significant abnormalities of the abdomen are suggested. Subcutaneous emphysema is still exhibited along the left flank. Within the pelvis the bladder appears decompressed and has a Foley catheter in place. I do not identify any extravasation of contrast from the bladder and both kidneys are observed to function in a satisfactory fashion. Pelvic fracture is identified. The sacrum does not clearly exhibit evidence for fracture. The right acetabulum displays comminution. There does not appear to be penetration of the femoral head into the pelvis. There is a small hematoma adjacent to the complex acetabular fracture. However, this does not significantly compromise the structures of the pelvis. I believe there is also a hematoma just anterior to the femoral neck. This most likely reflects the ipsilateral femoral neck fracture. There are at least four to six fragments involving the acetabular fracture.

<Impression>:

1. Left flail chest.
2. Left pneumothorax.
3. Left chest tube with tip near aortic arch.
4. Left pulmonary parenchymal contusions primarily affecting the lingular segment and I believe also perhaps affecting several segments of the lower lobe. Left pleural fluid is present. No definite mediastinal hematoma is suggested. The right lung suggests small areas of atelectasis and/or contusion or retained secretions and a small right pleural fluid collection. There is no evidence for right pneumothorax. Extensive subcutaneous emphysema is appreciated.
5. Major abdominal viscera appear intact.
6. Right acetabular comminuted fracture is present without significant distraction of fracture fragments or protrusion of the femoral head into the pelvis. Small hematomas are noted near the acetabular fracture and the femoral neck.



## **Radiographic Records:**

Follow-up Chest

RM: [REDACTED]

EXAM DATE: [REDACTED] / 90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

PORTABLE SUPINE CHEST AT [REDACTED] HOURS ON [REDACTED] / 90;

ENDOTRACHEAL TUBE HAS NOW BEEN ADDED SINCE THE PREVIOUS EXAMINATION. NASOGASTRIC TUBE IS TRAVERSING THE ESOPHAGUS WITH THE TIP CUT OFF OF THE FILM. THERE HAS BEEN THE ADDITION OF A LEFT CHEST TUBE SINCE THE PREVIOUS EXAMINATION. PERSISTENT SUBCUTANEOUS EMPHYSEMA IS NOW PRESENT. THERE IS SLIGHTLY LESS PLEURAL THICKENING Laterally though there is increased parenchymal density of the lung on the left side at this time. Slightly poorer inspiration is present. Again noted are multiple rib fractures again difficult to delineate. The 3rd, 4th, 5th and possibly 6th ribs are fractured. Some moderate displacement is present.

IMPRESSION:

Interval addition of nasogastric tube, left chest tube, and endotracheal tube. I could not identify a definite pneumothorax on the left side but the left costophrenic angle is cut off of the film and is being obscured by overlying subcutaneous emphysema.

Also noted are multiple rib fractures.

The parenchymal densities now seen in the left lung could be a combination of atelectasis, lung contusion and blood within the pleural space, though I think there is less effusion when compared to the previous exam.

RM: [REDACTED]

EXAM DATE: [REDACTED] / 90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

PORTABLE AP SUPINE CHEST ON [REDACTED] / 90;

Chest tube is in place with the tip in the apex of the lung. I cannot identify a pneumothorax on this examination. Again there is overlying subcutaneous emphysema which makes it difficult. Endotracheal tube in place above the carina. Nasogastric tube traversing the esophagus with the tip cut off of the film. There is again noted to be multiple rib fractures on the left side with some significant displacement of at least one of the fracture fragments. There is pleural thickening laterally in the apex and there is still noted to be increased density through the left heart and some ill defined parenchymal density in the left base. The right lung is clear. There is noted to be some mediastinal air also present. There is density seen medially along the upper portion of the left hemithorax. This was also present on the previous examination at [REDACTED] hours on [REDACTED] '90.

IMPRESSION:

Persistent subcutaneous emphysema overlying the left hemithorax as well as mediastinal air present on the left side of the mediastinum. There are multiple rib fractures though I cannot identify a pneumothorax at this time. There are densities in the left lung consistent with atelectasis and/or pulmonary contusion. Density seen medially in the left apex could just represent accumulation of pleural effusion medially adjacent to the mediastinum in this area. This makes it more difficult to evaluate for width of the mediastinum. I suggest that an upright view be obtained to see if this fluid can be moved to a dependent position and to better assess the width of the mediastinum.

EXAM DATE: [REDACTED]/90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

AP PORTABLE SUPINE CHEST [REDACTED] HOURS:  
 MULTIPLE TRAUMA.  
 COMPARED TO PREVIOUS FILM OF [REDACTED]-90.

FINDINGS:

ENDOTRACHEAL AND NASOGASTRIC AND LEFT CHEST TUBE REMAIN IN SIMILAR POSITION. NO RESIDUAL PNEUMOTHORAX IS IDENTIFIED. THE AMOUNT OF SUBCUTANEOUS EMPHYSEMA IN THE LEFT APPEARS TO BE DECREASING. THERE IS PERHAPS SOME VERY MILD INCREASED PARENCHYMAL DENSITY, Laterally IN THE RIGHT UPPER LUNG FIELD SINCE THAT OF PREVIOUS STUDY.

IMPRESSION:

SUGGESTIVE INCREASING ATELECTASIS OR CONTUSION IN THE RIGHT UPPER LUNG FIELD Laterally.

EXAM DATE: [REDACTED]/90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

AP PORTABLE SUPINE CHEST, [REDACTED] HOURS

CLINICAL HISTORY: MULTIPLE TRAUMA.  
 COMPARED TO [REDACTED] HOURS.

FINDINGS:

THE ENDOTRACHEAL AND NASOGASTRIC AND LEFT CHEST TUBES REMAIN IN SIMILAR POSITION. IN THE INTERIM THERE HAS DEVELOPED NEAR COMPLETE CONSOLIDATION OF THE RIGHT UPPER LOBE WITH UPWARD BOWING OF THE FISSURE. THIS MOST LIKELY WOULD REPRESENT SOME RIGHT UPPER LOBE ATELECTASIS AND COLLAPSE, POSSIBLY FROM MUCOUS PLUGGING. ANOTHER CONSIDERATION WHICH IS PROBABLY LESS LIKELY WOULD BE SOME LOCULATED FLUID, PERHAPS FROM HEMATOMA. THERE IS NO OTHER PLEURAL FLUID COLLECTIONS IDENTIFIED, PARTICULARLY AT THE LEFT LUNG APEX AND THERE IS NO PARTICULAR INCREASED DEVIATION BETWEEN THE ESOPHAGUS AND TRACHEA WHEN COMPARED TO PREVIOUS EXAMS. PATCHY PARENCHYMAL DENSITY IN THE LEFT LUNG FIELD SUGGESTING CONTUSION IS UNCHANGED

IMPRESSION:

CONSOLIDATION AND INCREASED DENSITY IN THE RIGHT UPPER LUNG FIELD MOST LIKELY RELATED TO INTERVAL ATELECTASIS AND COLLAPSE OF THE RIGHT UPPER LUNG FIELD.

LOCULATED FLUID IS CONSIDERED TO BE LESS LIKELY.

SEE ABOVE DISCUSSION.

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

AP PORTABLE SUPINE CHEST [REDACTED] HOURS:  
 CLINICAL: F/U BRONCHOSCOPY.  
 COMPARED TO PREVIOUS FILM OF [REDACTED] HOURS:

FINDINGS:

THERE IS NOW RE-EXPANSION OF THE RIGHT UPPER LOBE WITH SOME MILD RESIDUAL INCREASED PARENCHYMAL DENSITY SUGGESTING SOME MILD RESIDUAL ATELECTASIS. ENDOTRACHEAL AND NASOGASTRIC TUBES ARE IN SIMILAR POSITION. LEFT CHEST TUBE IS UNCHANGED AND THERE IS DECREASING SUBCUTANEOUS EMPHYSEMA. THE REMAINING FINDINGS ARE SIMILAR.

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

CHEST AP SUPINE PORTABLE [REDACTED] HOURS:  
 CLINICAL HISTORY: TUBE PLACEMENT.  
 COMPARED TO PREVIOUS FILM OF [REDACTED] HOURS.

FINDINGS:

THE RIGHT UPPER LOBE REMAINS RE-EXPANDED. THERE IS SOME MILD SUBSEGMENTAL ATELECTASIS IN THE RIGHT MID LUNG FIELD. A CENTRAL VENOUS CATHETER HAS BEEN PLACED VIA THE LEFT SUBCLAVIAN APPROACH WITH THE TIP IN THE PLANE OF THE SUPERIOR VENA CAVA. LEFT CHEST TUBE IS IN SIMILAR POSITION. THERE IS SOME LUCENCY NEAR THE LEFT COSTOPHRIC ANGLE AND OCCASIONALLY A LOCULATED PNEUMOTHORAX IN THIS AREA MAY CREATE THIS PICTURE. NO OTHER EVIDENCE OF PNEUMOTHORAX IS NOTED IN THE LEFT LUNG FIELD. THE LEFT LUNG IS OTHERWISE WELL EXPANDED. THE CARDIAC SIZE AND CONFIGURATION IS STABLE. ENDOTRACHEAL TUBE REMAINS IN SATISFACTORY POSITION WITH THE TIP AT THE APPROXIMATE T1-T2 LEVEL.

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

AP PORTABLE SUPINE CHEST [REDACTED] HOURS:  
 F/U MULTIPLE TRAUMA.  
 COMPARED TO [REDACTED] 90.

FINDINGS:

ENDOTRACHEAL, NASOGASTRIC TUBE, LEFT CHEST TUBE AND CENTRAL VENOUS CATHETERS REMAIN IN SIMILAR POSITION. THE RIGHT UPPER LOBE REMAINS EXPANDED. THERE IS SOME PATCHY PARENCHYMAL DENSITY IN THE LEFT LUNG FIELD SUGGESTING PULMONARY CONTUSION WHICH APPEARS STABLE.

RM: [REDACTED]

EXAM DATE: [REDACTED]/90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]CHEST: (PORTABLE SUPINE [REDACTED])  
F/U MVA TRAUMA

AGAIN NOTED ARE THE MULTIPLE DISPLACED RIB FRACTURES ON THE LEFT SIDE. CENTRAL VENOUS LINE IS IN PLACE WITH TIP IN THE SVC. ET TUBE IS IN PLACE ABOVE THE CARINA. NG TUBE TRAVERSES THE ESOPHAGUS WITH TIP CUT OFF OF THE FILM. THE LEFT CHEST TUBE IS IN PLACE WITHOUT PNEUMOTHORAX. THERE ARE SCATTERED PARENCHYMAL DENSITIES IN THE LEFT BASE AND ALONG THE LEFT LATERAL PORTION OF THE LUNG WHICH MAY BE DUE TO LUNG CONTUSION OR PLEURAL EFFUSION SECONDARY TO THE TRAUMA. IT IS SLIGHTLY IMPROVED FROM THE PREVIOUS EXAMINATION WITH SLIGHTLY BETTER LUNG EXPANSION ON THE LEFT SIDE.

ON THE OTHER HAND, THERE IS INCREASING INFILTRATE IN THE RUL LATERALLY WHEN COMPARED TO THE PREVIOUS EXAMINATION. THIS MAY BE ON THE BASIS OF PNEUMONIA OR LUNG CONTUSION, THOUGH I DO NOT SEE ANY ADJACENT RIB FRACTURES IN THIS AREA. THIS COULD ALSO BE CAUSED BY ASPIRATION, ALTHOUGH AN ET TUBE IS IN PLACE AT THIS TIME AND WOULD DECREASE THE LIKELIHOOD OF AN ASPIRATION.

RM: [REDACTED]

EXAM DATE: [REDACTED]/90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]PORTABLE SUPINE CHEST [REDACTED] HOURS:  
CLINICAL HISTORY: MULTIPLE TRAUMA.

ENDOTRACHEAL, NASOGASTRIC TUBES, LEFT SUBCLAVIAN CATHETER WITH TIP AT JUNCTION OF SUPERIOR VENA CAVA AND LEFT INNOMINATE VEIN AND LEFT CHEST TUBE ARE IN PLACE. THERE ARE MULTIPLE LEFT SIDED RIB FRACTURES. THERE IS EXTRAPULMONARY, PROBABLY PLEURAL BASED, DENSITY IN THE LATERAL LEFT HEMITHORAX ASSOCIATED WITH THE RIB FRACTURES. THERE IS PARENCHYMAL ABNORMALITY BILATERALLY. THIS IS NOT ASSOCIATED WITH OBVIOUS ALTERATION IN CARDIAC SIZE. SO THE MOST LIKELY EXPLANATIONS WOULD BE ADULT RESPIRATORY DISTRESS SYNDROME, PNEUMONITIS, OR FLUID OVERLOAD. THERE IS A SMALL AREA OF FOCAL DENSITY IN THE RETROCARDIAC REGION WHICH COULD BE A CLEARING PULMONARY CONTUSION. THIS COULD ALSO BE A SITE OF SUBSEGMENTAL ATELECTASIS, HOWEVER. NO PNEUMOTHORAX IS APPRECIATED.

IMPRESSION:

CONSIDERABLE BILATERAL PARENCHYMAL ABNORMALITY, SEE DISCUSSION ABOVE.

RM

EXAM DATE: 90 HIST:   
 REQUESTING M.D.:CHEST (PORTABLE SUPINE)   
 F/U TRAUMA, MVA

ET TUBE IS IN PLACE ABOVE THE CARINA. CENTRAL VENOUS LINE IS IN PLACE WITH THE TIP AGAINST THE LATERAL WALL OF THE SVC. LEFT CHEST TUBE IS IN PLACE. I DO NOT IDENTIFY A PNEUMOTHORAX. NG TUBE TRAVERSES THE ESOPHAGUS WITH THE TIP CUT OFF OF THE FILM. MULTIPLE RIB FRACTURES ARE PRESENT ON THE LEFT SIDE. THERE ARE BILATERAL PARENCHYMAL DENSITIES, ESSENTIALLY UNCHANGED FROM THE PREVIOUS EXAMINATION

## IMPRESSION:

CONSIDERING THE DIFFERENCE IN TECHNIQUE, ESSENTIALLY STABLE EXAMINATION SUGGEST SLIGHT REPOSITIONING OF THE CENTRAL VENOUS LINE SUCH THAT IT DOES NOT LIE AGAINST THE LATERAL WALL OF THE SVC

RM:

EXAM DATE: 90 HIST:   
 REQUESTING M.D.:CHEST: (PORTABLE AP SUPINE)   
 F/U CHF

NO CHANGE IN THE LEFT CHEST TUBE. AGAIN NOTED IS THE NG TUBE TRAVERSED THE ESOPHAGUS WITH THE TIP CUT OFF OF THE FILM. NO CHANGE IN POSITION OF THE ET TUBE. CENTRAL VENOUS LINE IS STILL IN PLACE WITH THE TIP LYING AGAINST THE LATERAL BORDER OF THE SVC AND SUGGEST ADVANCEMENT SUCH THAT IT IS PARALLELING THE WALL RATHER THAN LAYING AGAINST IT. THIS CAN SOMETIMES ERODE THROUGH THE SVC. AGAIN NOTED ARE BILATERAL PARENCHYMAL DENSITIES TO APPROXIMATELY THE SAME EXTENT SEEN EARLIER IN THE DAY AT HOURS. MULTIPLE LEFT RIB FRACTURES ARE PRESENT AS WELL AS SOME PLEURAL DENSITY IN THE LEFT LUNG, MOST LIKELY CONSISTENT WITH PREVIOUS PNEUMOTHORAX FROM THE RIB FRACTURES.

## IMPRESSION:

BILATERAL PARENCHYMAL DENSITIES MOST LIKELY SECONDARY TO OLD RDS, FLUID OVERLOAD, THOUGH I DO NOT SEE ANY MARGIN OF THE CARDIAC SILHOUETTE. STABLE FROM EARLIER IN THE DAY ON 90. THE REMAINDER OF THE EXAMINATION IS STABLE.

EXAM DATE: [REDACTED] 90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

CHEST: (PORTABLE SUPINE [REDACTED])  
 F/U TRAUMA, MVA

THERE IS SLIGHTLY MORE PARENCHYMAL DENSITY AT THE RIGHT BASE  
 Laterally than was seen yesterday. Diffuse fluffy densities are  
 seen throughout both lungs. The left hemidiaphragm is slightly  
 more obscured today than yesterday. The left chest tube remains  
 in place. Multiple left rib fractures appear in good position.  
 ET and NG tubes are stable in position as is the left subclavian  
 line.

EXAM DATE: [REDACTED] 90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

CONCLUSIONS:  
 INCREASING PARENCHYMAL DENSITY AT THE BASES, PROBABLY REPRESENTING  
 CONTUSION.

EXAM DATE: [REDACTED] 90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

CHEST: (PORTABLE SUPINE [REDACTED])

CHECK TUBE PLACEMENT

THERE IS NO CHANGE IN THE DIFFUSE FLUFFY INFILTRATES BILATERALLY  
 COMPARED TO THE STUDY AT [REDACTED]. TUBES AND CATHETERS ARE  
 STABLE. NO PNEUMOTHORAX OR PLEURAL EFFUSION IS SEEN. THE HEART  
 IS UNREMARKABLE.

EXAM DATE: [REDACTED] 90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

CHEST (PORTABLE SUPINE [REDACTED])  
 NO CLINICAL INDICATIONS

THERE IS MARKED INCREASE IN PARENCHYMAL OPACIFICATION BILATERALLY  
 WITH SIGNIFICANT ELEVATION OF BOTH HEMIDIAPHRAGMS. TUBES AND  
 CATHETERS ARE AGAIN STABLE.

EXAM DATE: [REDACTED] 90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

CHEST: (PORTABLE AP SUPINE [REDACTED])

ASAP

THERE HAS BEEN CONSIDERABLE IMPROVEMENT IN AERATION BILATERALLY,  
 ALTHOUGH FLUFFY DIFFUSE INFILTRATES PERSIST. TUBES AND CATHETERS  
 ARE AGAIN STABLE IN POSITION. NO SIGNIFICANT PLEURAL FLUID OR  
 PNEUMOTHORAX IS SEEN.

EXAM DATE: [REDACTED]/90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

PORTABLE SUPINE CHEST AT 0 [REDACTED] HOURS ON [REDACTED]/90;  
 CLINICAL: NONE GIVEN

THERE ARE DIFFERENCES IN TECHNIQUE BETWEEN TODAY'S EXAMINATION AND THOSE PERFORMED ON [REDACTED]/90 INSPITE OF THE TECHNICAL DIFFERENCES, THERE IS THOUGHT TO HAVE BEEN A SLIGHT FURTHER IMPROVEMENT ~~INT~~ IN AERATION OF THE LUNG FIELDS WHEN COMPARED WITH STUDY AT [REDACTED] HOURS YESTERDAY. THERE IS STILL PLEURAL ABNORMALITY IN THE LEFT HEMITHORAX ADJACENT TO RIB FRACTURES. LEFT CHEST TUBE IS IN PLACE WITH NO LEFT PNEUMOTHORAX SEEN. ENDOTRACHEAL AND NASOGASTRIC TUBES AND SWAN-GANZ CATHETER REMAIN IN POSITION.

IMPRESSION:  
 BILATERAL PARENCHYMAL CHANGES WITH SLIGHT IMPROVEMENT SINCE [REDACTED]/90. LEFT EXTRAPULMONARY, PROBABLY PLEURAL BASED, ABNORMALITY MOST LIKELY ON THE BASIS OF ~~PNEUMOTHORAX~~ FROM ADJACENT RIB FRACTURES.  
 HEMOTHORAX

EXAM DATE: [REDACTED]/90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

CHEST: (PORTABLE SUPINE [REDACTED])  
 NO CLINICAL INDICATIONS

THE VARIETY OF TUBES REMAIN STABLE IN POSITION. THERE CONTINUE TO BE BILATERAL PULMONARY INFILTRATES, NOT SIGNIFICANTLY CHANGED FROM YESTERDAY. POST TRAUMATIC CHANGES IN THE LEFT RIB CAGE ARE RE-IDENTIFIED AND STABLE.

EXAM DATE: [REDACTED]/90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

CHEST PORTABLE SUPINE [REDACTED] HOURS:  
 CLINICAL HISTORY: F/U

THERE IS A PROBABLE MEDIOBASILAR PNEUMOTHORAX ON THE LEFT WHICH IS RELATIVELY SMALL IN DEGREE. POST TRAUMATIC CHANGES, LEFT LATERAL RIB CAGE ARE NOTED AND VARIETY OF TUBES REMAINS STABLE IN POSITION. THERE CONTINUE TO BE RATHER EXTENSIVE BILATERAL INFILTRATES AND THE AMOUNT OF CONSOLIDATION IN THE RIGHT LUNG MAY BE MINIMALLY GREATER THAN ON YESTERDAY'S EXAM. PRESUMED TO REPRESENT ARDS.

EXAM DATE: [REDACTED]/90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

PORTABLE CHEST AP SUPINE AT [REDACTED] HOURS ON [REDACTED]/90;  
 CLINICAL: NONE GIVEN

CONTINUED BILATERAL PARENCHYMAL INFILTRATES ARE IDENTIFIED CONSISTENT WITH ARDS. NO SIGNIFICANT INTERVAL CHANGE IS SEEN COMPARED WITH THE EXAMINATION YESTERDAY.



[REDACTED]  
RM [REDACTED]

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

CHEST PORTABLE [REDACTED] HOURS:  
CLINICAL HISTORY: MULTIPLE TRAUMA

VARIETY OF TUBES REMAIN STABLE IN POSITION. THERE IS A PROBABLE MINIMAL LEFT INFEROMEDIAL PNEUMOTHORAX PRESENT. EXTENSIVE BILATERAL PARENCHYMAL INFILTRATES CONSISTENT WITH ARDS ARE AGAIN IDENTIFIED AND ESSENTIALLY UNCHANGED.

[REDACTED]  
RM: [REDACTED]

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

CHEST AP SUPINE PORTABLE [REDACTED] HOURS:  
CLINICAL: LINE PLACEMENT.

THERE ARE DIFFUSE PARENCHYMAL INFILTRATES CONSISTENT WITH ARDS. MULTIPLE RIB FRACTURES ARE AGAIN IDENTIFIED. THERE IS A NASOGASTRIC TUBE, ENDOTRACHEAL TUBE, AND SWAN-GANZ CATHETER IN PLACE. SUBSTANTIAL CHANGE HAS NOT OCCURRED SINCE THE EXAMINATION EARLIER IN THE DAY.

[REDACTED]  
RM: [REDACTED]

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

CHEST PORTABLE SUPINE [REDACTED] HOURS:  
NO CLINICAL INFORMATION GIVEN.

COMPARED TO YESTERDAY'S EXAMINATION, THE OVERALL APPEARANCE OF THE CHEST IS STABLE. THERE ARE NO NEW OR ACUTE FINDINGS THAT I CAN IDENTIFY.

[REDACTED]  
RM [REDACTED]

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

CHEST PORTABLE SUPINE [REDACTED] HOURS:  
CLINICAL: F/U TRAUMA.

THERE HAS BEEN NO SUBSTANTIAL CHANGE IN THE APPEARANCE OF THIS PATIENT'S DIFFUSE ALVEOLAR DISEASE SINCE THE EXAMINATION DONE YESTERDAY. THE SWAN-GANZ CATHETER, ENDOTRACHEAL TUBE, CHEST TUBE, AND NASOGASTRIC TUBES ARE IN PLACE.

IMPRESSION:  
NO IMPROVEMENT.

[REDACTED]  
RM. [REDACTED]

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

PORTABLE CHEST SUPINE AT [REDACTED] HOURS ON [REDACTED] /90;  
CLINICAL: F/U TRAUMA

THERE IS DIFFUSE ALVEOLAR PARENCHYMAL PROCESS INVOLVING BOTH LUNGS. THIS IS UNCHANGED FROM THE EXAMINATION YESTERDAY. THERE ARE NO NEW RADIOGRAPHIC FINDINGS.

RM [REDACTED]

EXAM DATE: [REDACTED] / 90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

CHEST. (PORTABLE SUPINE [REDACTED])

NO CLINICAL INDICATIONS NOTED

THE STUDY IS COMPARED WITH THE STUDY YESTERDAY. TUBES AND CATHETERS THAT WERE IN PLACE REMAIN IN PLACE. THE DISTRIBUTION AND MAGNITUDE OF THE PARENCHYMAL PROCESS IS UNCHANGED.

RM: [REDACTED]

EXAM DATE: [REDACTED] / 90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]CHEST BEDSIDE SUPINE [REDACTED] HOURS.  
CLINICAL: NONE GIVEN.

CHEST TUBES, SWAN-GANZ CATHETER AND NASOGASTRIC TUBE AND TRACHEOSTOMY TUBES ARE STILL IN PLACE. THE DIFFUSE PARENCHYMAL PROCESS OF ARDS INVOLVES ALL LUNG ZONES AND HAS NOT CHANGED IN MAGNITUDE SINCE THE EXAMINATION EARLIER IN THE DAY.

RM: [REDACTED]

EXAM DATE: [REDACTED] / 90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]CHEST PORTABLE SUPINE [REDACTED] HOURS.  
CLINICAL: NONE GIVEN.

EXAMINATION IS COMPARED TO THE STUDY SOME 8 HOURS EARLIER. NO NEW RADIOGRAPHIC FINDINGS ARE IDENTIFIED.

IMPRESSION:

STABLE ARDS

RM: [REDACTED]

EXAM DATE: [REDACTED] / 90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]PORTABLE SUPINE CHEST.  
CLINICAL: NONE GIVEN.

LEFT CHEST TUBE, SWAN-GANZ CATHETER WITH TIP IN RIGHT PULMONARY ARTERY, TRACHEOSTOMY TUBE, AND NASOGASTRIC TUBE REMAIN IN PLACE. THERE IS PARENCHYMAL ABNORMALITY BILATERALLY. WHEN DIFFERENCES IN RADIOGRAPHIC TECHNIQUE ARE TAKEN INTO THE ACCOUNT, THE APPEARANCE OF THE LUNG FIELDS IS NOT CONSIDERED TO HAVE CHANGED FROM [REDACTED] 90. THE RIGHT LOWER HEMITHORAX IS NOT INCLUDED ON THIS SINGLE FRONTAL RADIOGRAPH. THERE IS EXTRAPULMONARY, PROBABLY PLEURAL BASED, ABNORMALITY IN THE LEFT HEMITHORAX ASSOCIATED WITH RIB FRACTURES. THE LUNGS ARE EXPANDED.

IMPRESSION:

NO SIGNIFICANT CHANGE.

██████████ EXAM DATE: █████/90 HIST: █████  
 RM: █████ REQUESTING M.D.: █████

CHEST PORTABLE SUPINE █████ HOURS:  
 CLINICAL: F/U TRAUMA.

I SEE NO APPRECIABLE CHANGE IN THE OVERALL APPEARANCE OF THE CHEST SINCE YESTERDAY'S EXAMINATION.

██████████ EXAM DATE: █████/90 HIST: █████  
 RM: █████ REQUESTING M.D.: █████

CHEST SUPINE PORTABLE █████ HOURS:  
 CLINICAL: L CHEST TUBE REMOVAL.

LEFT SIDED CHEST TUBE HAS BEEN REMOVED. THERE IS NO INDICATION OF PNEUMOTHORAX. EXTENSIVE PARENCHYMAL DISEASE REMAINS.

IMPRESSION:

THE ONLY CHANGE BETWEEN THIS STUDY AND THE ONE EARLIER IN THE MORNING IS THAT THE LEFT SIDED CHEST TUBE HAS BEEN REMOVED WITHOUT CONSEQUENCE.

██████████ EXAM DATE: █████/90 HIST: █████  
 RM: █████ REQUESTING M.D.: █████

PORTABLE CHEST SUPINE AT █████ HOURS ON █████/90;  
 CLINICAL: NONE GIVEN

STUDY IS COMPARED TO ONE DAY EARLIER WITHOUT SIGNIFICANT CHANGE.

██████████ EXAM DATE: █████/90 HIST: █████  
 RM: █████ REQUESTING M.D.: █████

PORTABLE CHEST AP SUPINE AT █████ HOURS ON █████/90;  
 CLINICAL: NONE GIVEN

COMPARED TO ONE DAY EARLIER APPARENTLY THE SWAN-GANZ CATHETER HAS BEEN WITHDRAWN OR REPLACED, A CENTRAL CATHETER NOW HAVING ITS TIP IN THE AREA OF THE SUPERIOR VENA CAVA. THE REST OF THE STUDY IS UNCHANGED.

██████████ EXAM DATE: █████/90 HIST: █████  
 RM: █████ REQUESTING M.D.: █████

PORTABLE CHEST AP SUPINE AT █████ HOURS ON █████/90;  
 CLINICAL: LINE PLACEMENT

COMPARED TO EARLIER IN THE DAY THERE IS NOW A SECOND SUPERIOR VENA CAVA LINE ENTERING THE RIGHT SUBCLAVIAN VEIN AND TERMINATING IN THE SUPERIOR VENA CAVA WITHOUT RADIOGRAPHIC COMPLICATIONS OF THE PROCEDURE. THIS STUDY IS OTHERWISE UNCHANGED.

██████████ EXAM DATE: █████/90 HIST: █████  
 RM: █████ REQUESTING M.D.: █████

CHEST PORTABLE SUPINE █████ HOURS:  
 CLINICAL: NONE GIVEN.

COMPARED TO ONE DAY EARLIER, THE LEFT SIDED SUPERIOR VENA CAVA LINE HAS BEEN WITHDRAWN. THE STUDY IS OTHERWISE UNCHANGED.

[REDACTED]  
RM: [REDACTED]

EXAM DATE: [REDACTED]/90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

CHEST AP SUPINE PORTABLE [REDACTED] HOURS:  
CLINICAL: TROUBLE BREATHING.

TRACHEOSTOMY TUBE IS PRESENT AND IN GOOD POSITION. EXTENSIVE  
BILATERAL INFILTRATES OF ARDS ARE AGAIN IDENTIFIED. THE APPEARANCE  
OF THE CHEST IS NOT SIGNIFICANTLY CHANGED FROM EARLIER IN THE DAY.

[REDACTED]  
RM: [REDACTED]

EXAM DATE: [REDACTED]/90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

CHEST PORTABLE SUPINE [REDACTED] HOURS:  
NO CLINICAL INFORMATION GIVEN.

EXTENSIVE BILATERAL INFILTRATES OF ARDS IS RE-IDENTIFIED.  
POSITIONING OF VARIETY OF TUBES IS STABLE.

[REDACTED]  
RM: [REDACTED]

EXAM DATE: [REDACTED]/90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

CHEST: (PORTABLE SUPINE [REDACTED])  
NO CLINICAL INDICATIONS NOTED

THE STUDY IS COMPARED TO ONE DAY EARLIER. THERE IS SOME  
IMPROVEMENT IN THE PATCHY, SOMEWHAT DIFFUSE, INFILTRATES.  
HOWEVER, MARKED RESIDUAL REMAINS. THE REST OF THE STUDY IS  
UNCHANGED.

[REDACTED]  
RM: [REDACTED]

EXAM DATE: [REDACTED]/90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

CHEST: (PORTABLE SUPINE [REDACTED])  
NO CLINICAL INDICATIONS

COMPARED TO ONE DAY EARLIER, THERE IS NO SIGNIFICANT CHANGE. SVC  
LINE, TRACHEOSTOMY TUBE, NG TUBE ARE RENOTED. DIFFUSE PARENCHYMAL  
INFILTRATES WITH PLEURAL REACTION AND RIB FRACTURES ARE RENOTED.

IMPRESSION:  
STABLE CHEST.

[REDACTED]  
RM: [REDACTED]

EXAM DATE: [REDACTED]/90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

PORTABLE CHEST AT [REDACTED] HOURS ON [REDACTED]/90;  
CLINICAL: NONE GIVEN

THIS IS ESSENTIALLY UNCHANGED FROM ONE DAY EARLIER.

[REDACTED]  
RM: [REDACTED]

EXAM DATE: [REDACTED]/90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

CHEST: (PORTABLE SUPINE [REDACTED])

NO CLINICAL INDICATIONS

THE PRESENT STUDY IS COMPARED WITH MULTIPLE PREVIOUS STUDIES. THE  
RIGHT SIDED CENTRAL LINE HAS BEEN REMOVED AND ONLY THE LEFT  
SUBCLAVIAN LINE IS VISIBLE NOW. THE AMOUNT OF DIFFUSE PARENCHYMAL  
DENSITY REALLY HAS NOT CHANGED. HEART SIZE IS STABLE. THERE IS  
NO PNEUMOTHORAX.

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

PORTABLE CHEST AT [REDACTED] HOURS ON [REDACTED] /90;  
 CLINICAL: F/U MVA

DIFFUSE PARENCHYMAL DISEASE IS AGAIN NOTED IN BOTH LUNGS. IT APPEARS A BIT MORE ACCENTUATED IN THE RIGHT LUNG TODAY BUT I THINK THAT'S DUE TO THE FACT THAT THE LATERAL ASPECT OF THE RIGHT CHEST IS A LITTLE CLOSER TO THE EDGE OF THE FILM THAN IT WAS ON YESTERDAY'S FILM STUDY AND THERE PROBABLY HASN'T BEEN ANY SIGNIFICANT CHANGE.

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

CHEST: (PORTABLE AP UPRIGHT [REDACTED])

F/U MVA

TRACHEOSTOMY TUBE IS STILL IN PLACE AS IS THE CENTRAL LINE. FEEDING TUBE AND NG TUBES ARE SEEN. MULTIPLE RIB FRACTURES ARE AGAIN IDENTIFIED. THE PARENCHYMAL PROCESS, PRESUMED ARDS, SHOWING SLOW, BUT CONTINUED, FAVORABLE PROGRESS. RESOLUTION IS BEGINNING TO TAKE PLACE. IDENT

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

CHEST: (PORTABLE AP SUPINE [REDACTED])  
 F/U MVA

TRACHEOSTOMY TUBE HAS BEEN REMOVED SINCE PREVIOUS EXAM [REDACTED] 90. CENTRAL VENOUS LINE WITH TIP IN THE SVC IS UNCHANGED IN POSITION. THERE HAS BEEN INTERVAL REMOVAL OF THE NG TUBE. BILATERAL PARENCHYMAL INFILTRATES ARE PRESENT. MULTIPLE HEALING RIB FRACTURES ON THE LEFT SIDE ARE PRESENT. I DO NOT IDENTIFY A PNEUMOTHORAX. THE DEGREE OF PARENCHYMAL DENSITIES IN THE LUNGS BILATERALLY IS ESSENTIALLY UNCHANGED FROM PREVIOUS EXAM.

IMPRESSION:  
 INTERVAL REMOVAL OF TRACHEOSTOMY TUBE AND NG TUBE. PARENCHYMAL DENSITIES, CONSISTENT WITH ARDS, ARE STABLE FROM PREVIOUS EXAM.

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING M.D.: [REDACTED]

CHEST PORTABLE AP SUPINE [REDACTED] HOURS:  
 CLINICAL HISTORY: F/U MVA.

WHEN COMPARING THIS EXAMINATION WITH THE PREVIOUS ONE, THERE IS NO CHANGE IN THE CARDIAC SIZE AND CONFIGURATION, THE CVP LINE REMAINS IN THE SAME POSITION AS BEFORE. AGAIN THERE IS ALVEOLAR AND INTERSTITIAL DISEASE. THESE ARE FINDINGS OF RDS, THESE ARE SIMILAR TO BEFORE. THERE ARE MULTIPLE FRACTURED RIBS IN THE LEFT HEMITHORAX

IMPRESSION:

THE CHEST REMAINS UNCHANGED SINCE THE PREVIOUS EXAMINATION.

**Radiographic Records:**

Follow-up Abdomen

ABDOMEN: (PORTABLE SUPINE [REDACTED])

RM: [REDACTED]

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

THERE IS MILD TO MODERATE DIFFUSE COLONIC GASEOUS DISTENTION. NO SIGNIFICANT SMALL BOWEL DISTENTION IS SEEN.

[REDACTED] 90 [REDACTED] MD

Room ICU [REDACTED]

Clinical Findings: Multiple trauma, in Intensive Care on extension traction. Rule out acute cholecystitis or abscess.

<Upper abdominal ultrasound>:

A very technically limited examination was performed. We were unable to move the patient and there was extensive gas blocking encountered. The gallbladder is subjectively distended. It does have mild low level sludge within it but no calculi are identified. The wall is normal in thickness. No clear edema is identified. No fluid is identified around the gallbladder. The liver is normal in caliber. The biliary tree is normal in caliber. The kidneys are normal in size without evidence of pyelocaliectasis. The entirety of the mid abdomen is obscured. A portion of the head of the pancreas could be identified using the gallbladder as a window. This small portion of the pancreas appeared normal.

<Impression>:

Structural evidence for acute acalculus cholecystitis is not defined on this examination. It was, however, a technically limited study.

[REDACTED] 90 [REDACTED] MD

Room [REDACTED]

Clinical Findings: Rule out intra-abdominal abscess.

<CT of the abdomen and pelvis>:

Contrast - 190 cc. of Omni 240

The examination is done with oral and intravenous contrast. Because of the patient's pelvic injuries, a rectal enema was not given. Examination shows a significant bilateral consolidation in the lungs with small bilateral pleural effusions. The chest tube enters on the left side. There is a small residual pocket of air anteriorly along the paracardium. In regards to the liver, it is reasonably large. I do not see any defects in the liver to suggest obvious abscess. The gallbladder is opaque. This is a little unusual but I think probably related to a previous infusion of contrast material at the time of the patient's initial admission. There is no ascites. The spleen is also generous but homogeneous. No adenopathy is visualized. Both kidneys are unremarkable. There are no retroperitoneal hematomas. No adenopathy is visualized. Small bowel is normal in caliber and there has been some filling of the colon secondary to the long time administration of oral contrast. The bladder

In regards to the soft tissues, there is some air within the bladder and contrast. In regards to the soft tissues, there is a little more swelling on the left side than the right especially near the site of the entry of the chest tube. A definite abscess is not identified. There is a small pocket of fluid seemingly between the muscle layers on the left side. I am not sure of the significance but it is quite small. It does not seem to exert a lot of mass effect. I do not see any intra-abdominal mass lesions, fluid collections, or any other mass lesions that would suggest abscess at this time. We do note the extensive fracture of the right hip, especially acetabulum and also the small fracture of the anterior iliac crest. We would appreciate clinical follow-up.

RM

EXAM DATE: /90 HIST:  
REQUESTING M.D.:ABDOMEN PORTABLE HOUR  
CLINICAL HISTORY: /V ABDOMEN

THERE IS RESIDUAL CONTRAST MATERIAL OUTLINING THE RIGHT COLON. THERE IS A NASOGASTRIC TUBE IN PLACE BUT A LARGE AMOUNT OF AIR IS PRESENT IN THE DISTENDED STOMACH DESPITE THE PRESENCE OF THE CATHETER. THERE IS A MODERATE AMOUNT OF GAS IN SMALL BOWEL LOOPS THROUGHOUT THE ABDOMEN AND IN DISTAL COLON. THERE IS NO EVIDENCE OF OBSTRUCTION.

IMPRESSION:

FINDINGS ARE RADIOGRAPHICALLY COMPATIBLE WITH A MILD ADYNAMIC ILEUS

RM:

EXAM DATE: /90 HIST:  
REQUESTING M.D.:

ABDOMEN: (PORTABLE SUPINE  
R/O EXCESSIVE GASTRIC DILATATION

COMPARED TO , ONLY THE UPPER ABDOMEN IS INCLUDED. NG TUBE IS NO LONGER PRESENT. THERE IS SOME GASEOUS DISTENTION OF THE STOMACH. BOWEL CONTENT, AS IMAGED, APPEARS SATISFACTORY BUT GAS FILLED.



**Radiographic Records:**

Follow-up Cervical Spine

RM: [REDACTED]

EXAM DATE: [REDACTED] / 90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]

REQUESTING M.D.: [REDACTED]

CERVICAL SPINE: (PORTABLE AP AND LATERAL [REDACTED])  
MVA, TRAUMA

THERE IS NORMAL ALIGNMENT OF THE CERVICAL SPINE AND VERTEBRAL BODY STATURE IS PRESERVED AS ARE THE DISC SPACES. THERE IS A VERY SMALL LINEAR CALCIFIC, OR PERHAPS EVEN OSSIFIC, DENSITY AT THE ANTEROSUPERIOR ASPECT OF C3. IT IS CONCEIVABLE THAT THIS REPRESENTS A VERY TINY FRACTURE FRAGMENT FROM THE ANTERIOR SUPERIOR ASPECT OF C3 BUT I THINK THE MORE LIKELY EXPLANATION IS THAT IT REPRESENTS AN EARLY SPUR FORMATION.

**Radiographic Records:**

Follow-up Hips and Femurs

RM: [REDACTED]

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]

REQUESTING M.D.: [REDACTED]

LEFT FEMUR [REDACTED] /90;

DISTAL LEFT FEMUR VIEWS AGAIN SHOW THE COMMUNUTED FRACTURE OF THE DISTAL METAPHYSIS OF THE FEMUR WITH MARKED POSTERIOR DISPLACEMENT AND MULTIPLE FRACTURE FRAGMENTS. THERE IS SOME MODERATE DISPLACEMENT ALSO SEEN ON THE AP VIEW. COMPARED TO THE PREVIOUS EXAMINATION ON [REDACTED] '90 THERE IS SLIGHTLY LESS OVERRIDING FRACTURE THOUGH DEGREE OF POSTERIOR DISPLACEMENT IS STILL MODERATELY SEVERE AND ESSENTIALLY UNCHANGED.

IT SHOULD ALSO BE NOTED THAT IT IS DIFFICULT TO TELL IF THERE IS DISLOCATION OF THE PATELLA THOUGH RELATIONSHIP OF THE PATELLA TO THE FEMORAL CONDYLE IS DIFFICULT TO ASSESS GIVEN THE TRAUMA.

RM: [REDACTED]

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]

REQUESTING M.D.: [REDACTED]

RIGHT HIP VIEWS [REDACTED] /90;

INTERTROCHANTERIC FRACTURE IS PRESENT. IT IS COMMUNUTED. THERE IS SLIGHT MEDIAL DISPLACEMENT OF THE DISTAL FRACTURE FRAGMENT ON THE AP VIEW AND THERE IS SIGNIFICANT DISPLACEMENT SUPERIORLY ON THE LATERAL VIEW. THIS SUPERIOR DISPLACEMENT IS APPROXIMATELY 3 TO 4 CM.

ALSO NOTED IS FRACTURE OF THE PELVIC RING THROUGH THE ACETABULUM. THE FEMORAL HEAD HAS BEEN DRIVEN THROUGH THE ACETABULUM FRACTURING THE AREA OF THE ILIOPECTINEAL LINE ABOVE THE ACETABULUM. FRACTURE FRAGMENTS ARE PRESENT IN THIS AREA.

IT SHOULD BE NOTED THAT THE REQUEST FORM CAME DOWN AS A RIGHT HIP AND THE FILM IS MARKED AS A RIGHT HIP. PREVIOUS EXAMINATION SHOWS THE LEFT INTERTROCHANTERIC AREA TO BE FRACTURED WITH THE FEMORAL HEAD DRIVEN THROUGH THE ACETABULUM AND THEREFORE THERE IS DISCREPANCY AS TO WHETHER THIS IS THE RIGHT OR THE LEFT SIDE. IF THE PREVIOUS FILM IS CORRECT AND IS MARKED LEFT SIDE THEN PRESENT EXAMINATION IS MARKED WRONG AND SHOULD REPRESENT THE LEFT HIP. CLINICAL CORRELATION AS TO WHICH AREA OF FRACTURE SHOULD BE MADE.

RM: [REDACTED]

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]

REQUESTING M.D.: [REDACTED]

APAND LATERAL LEFT KNEE VIEWS:  
CLINICAL HISTORY: TRAUMA.

AGAIN NOTED IS THE COMMUNUTED FRACTURE THROUGH THE DISTAL METAPHYSIS OF THE FEMUR. SUBCUTANEOUS EMPHYSEMA OVERLYING THE PATELLA ON THE LATERAL VIEW IS PRESENT. THERE ARE SKIN CLIPS PRESENT AS WELL AS A DRAINAGE CATHETER IN THE AREA OF THE FRACTURE. THERE IS INTERNAL FIXATION WITH A HORIZONTAL THREADED SCREW THROUGH THE FEMORAL CONDYLES AS WELL AS PLATE AND SCREW INTERNAL FIXATION OF THE COMMUNUTED FRACTURE ITSELF. IT IS IN APPROXIMATE ANATOMIC ALIGNMENT.

IT IS DIFFICULT TO TELL WHETHER THE SUBCUTANEOUS AIR ABOVE THE PATELLA IS WITHIN THE JOINT SPACE OR IN THE SOFT TISSUES.

████████████████████  
RM: ██████

EXAM DATE: █████/90 HIST: █████  
REQUESTING M.D.: ████████████████████

CROSS TABLE LATERAL VIEW OF THE KNEE, CROSS TABLE AP VIEW OF THE  
RIGHT FEMUR AND AP PELVIS:  
CLINICAL: MULTIPLE TRAUMA.

AP PELVIS: INTERTROCHANTERIC FRACTURE WITH PARTIAL AVULSION OF THE  
TROCHANTER IS AGAIN NOTED. THERE IS INTERNAL FIXATION WITH AN  
INTRAMEDULLARY ROD AND THREADED SCREW. THERE IS MODERATE  
DISTRACTION OF APPROXIMATELY 2 CM. BETWEEN THE PROXIMAL AND DISTAL  
FRACTURE FRAGMENTS.

ALSO NOTED IS ACETABULAR FRACTURE WHICH EXTENDS INTO THE  
ILIOPECTONEAL LINE AND IS CAUSING A PELVIC RING FRACTURE. THE  
FEMORAL HEAD HAS BEEN DRIVEN THROUGH THE ACETABULUM AND NOW IS  
LYING SUPEROMEDIALY TO ITS NORMAL POSITION. FRACTURE THROUGH THE  
PUBIC RAMUS Laterally IS NOTED.

ALSO NOTED IS A QUESTIONABLE AVULSION FRACTURE Laterally OFF OF  
THE LEFT INNOMINATE BONE.

LATERAL KNEE AND CROSS TABLE LATERAL VIEW OF THE FEMUR AND AP VIEW  
OF THE FEMUR SHOWS THE INTRAMEDULLARY ROD EXTENDING INTO THE  
DISTAL METAPHYSIS OF THE FEMUR. THE LATERAL VIEW IS PARTIALLY  
OBSCURED BY EXTERNAL STABILIZATION DEVICE. AT THE VERY DISTAL  
PORTION OF THE FEMUR, I DO NOT SEE EVIDENCE OF FRACTURES. THE  
CROSS TABLE LATERAL VIEW OF THE PROXIMAL FEMUR ON THE RIGHT SIDE  
DOES NOT INCLUDE ALL OF THE TROCHANTERIC FRACTURE. THERE IS NOTED  
TO BE SOME MEDIAL DISPLACEMENT OF THE DISTAL FRACTURE FRAGMENT AND  
AGAIN NOTED IS THE DISTRACTION. SUGGEST A REPEAT VIEW BE OBTAINED  
OF THIS VIEW TO INCLUDE ALL OF THE FRACTURE SITE.

████████████████████  
RM: ██████

EXAM DATE: █████/90 HIST: █████  
REQUESTING M.D.: ████████████████████

RIGHT HIP. (PORTABLE █████)  
NO CLINICAL FINDINGS

GOOD AP VIEW OF THE RIGHT HIP BUT DIFFICULT TO OBTAIN CROSSTABLE  
LATERAL VIEW DUE TO THE FACT THAT THE PATIENT IS IN TRACTION AND  
EXTERNAL FIXATION.

SCREW AND INTRAMEDULLARY ROD FIXATION OF AN INTERTROCHANTERIC  
FRACTURE. THERE IS MODERATE DISTRACTION OF THE FRACTURE OF  
APPROXIMATELY 1-2 CM. THERE IS SLIGHT POSTERIOR DISPLACEMENT ON  
LATERAL VIEW OF THE DISTAL FRACTURE FRAGMENT. ALSO NOTED IS THE  
FRACTURE OF THE ACETABULUM MEDIALY WHICH INVOLVES THE PELVIC RING  
AND PUBIC RAMUS. IT MAY ALSO INVOLVE THE OBTURATOR FORAMEN. THE  
FEMORAL HEAD HAS BEEN DISPLACED SLIGHTLY SUPERIOR AND MEDIAL,  
PARTIALLY THROUGH THE ACETABULUM. COMPARED TO THE PREVIOUS  
EXAMINATION ON █████ 90, POSITION OF THE FEMORAL HEAD AND THE  
FRACTURES OF THE PELVIS ARE UNCHANGED. THE INTERTROCHANTERIC  
FRACTURE WITH LESSER TROCHANTER AVULSION IS ALSO UNCHANGED AND  
STABLE. IT IS DIFFICULT TO COMPARE THE LATERAL VIEWS BECAUSE OF  
THE DIFFICULTY IN POSITIONING.

[REDACTED]  
RM: [REDACTED]

EXAM DATE: [REDACTED]/90  
REQUESTING M.D.: [REDACTED]

HIST: [REDACTED]

PORTABLE RIGHT HIP AT [REDACTED] HOURS ON [REDACTED]/90;  
CLINICAL: F/U

EXAMINATION AGAIN DEMONSTRATES THE CENTRAL ACETABULAR FRACTURE AND FRACTURE OF THE SUBTROCHANTERIC REGION OF THE RIGHT FEMUR. THERE IS INTRAMEDULLARY ROD WITH LOCKING THREADED SCREW. THERE IS SOME DIASTASIS AT THE FRACTURE SITE OF THE FEMUR. THE FRACTURE OF THE RIGHT ISCHIUM IS AGAIN IDENTIFIED. THE APPEARANCE OF THE RIGHT FEMUR IS NOT APPRECIABLY CHANGED COMPARED WITH THE EXAMINATION OF SIX DAYS EARLIER.

[REDACTED]  
RM: [REDACTED]

EXAM DATE: [REDACTED]/90  
REQUESTING M.D.: [REDACTED]

HIST: [REDACTED]

RIGHT HIP:  
CLINICAL: PATIENT PLACED IN TRACTION.

THE PROXIMAL INTERTROCHANTERIC FEMORAL FRACTURE HAS BEEN STABILIZED BY AN INTRAMEDULLARY PIN AND THREADED BOLT. THE EXTREMITY IS IN TRACTION. THERE IS RADIOGRAPHIC CONTRAST MATERIAL IN THE COLON. COMPLEX FRACTURE OF THE RIGHT HEMIPELVIS IS AGAIN IDENTIFIED.

[REDACTED]  
RM: [REDACTED]

EXAM DATE: [REDACTED]/90  
REQUESTING M.D.: [REDACTED]

HIST: [REDACTED]

PORTABLE LEFT KNEE, RIGHT HIP AT [REDACTED] HOURS ON [REDACTED]/90;  
CLINICAL: NONE GIVEN

OUR STUDY IS COMPARED WITH PREVIOUS. THE RIGHT HIP COMPARED TO PREVIOUS SHOWS SOME ROTATION AT THE SUBTROCHANTERIC FRACTURE WITH A DEVELOPING VARUS POSITION. ORTHOPEDIC APPLIANCES, CALLOUS FORMATION AND SPLINT ARE PRESENT. ACETABULAR FRACTURE IS RENOTED NOT SIGNIFICANTLY CHANGED IN APPEARANCE WITH CALLOUS FORMATION NOTED.

LEFT KNEE IS COMPARED TO PREVIOUS AND SHOWS AN ORTHOPEDIC APPLIANCE FIXATING A FRACTURE OF THE DISTAL FEMUR IN GOOD POSITION. POSITION IS UNCHANGED AND THERE IS NOW SIGNIFICANT CALLOUS FORMATION.

**Radiographic Records:**

Follow-up Feet

██████████  
RM: ██████████

EXAM DATE: ██████████/90 HIST: ██████████  
REQUESTING M.D.: ██████████

RIGHT FOOT VIEWS ██████████/90;

PORTIONS OF THE EXAMINATION ARE OBSCURED BY OVERLYING METALLIC BRACE. THERE IS A FRACTURE THROUGH THE DISTAL METAPHYSIS OF THE RIGHT SECOND METATARSAL WITH DISPLACEMENT TO A MODERATELY SEVERE DEGREE MEDIALLY OF THE DISTAL FRACTURE FRAGMENT WHICH IS ESSENTIALLY THE METATARSAL HEAD. THERE IS ALSO A FRACTURE AT THE FOURTH METATARSAL HEAD AND POSSIBLY THIRD METATARSAL HEAD THOUGH I CANNOT BE SURE DUE TO THE FACT THAT IT IS BEING OBSCURED BY OVERLYING BRACE. THERE IS WIDENING OF THE SPACE BETWEEN THE SECOND

██████████  
RM: ██████████

EXAM DATE: ██████████/90 HIST: ██████████  
REQUESTING M.D.: ██████████

RIGHT FOOT THREE VIEWS  
CLINICAL: MULTIPLE TRAUMA  
COMPARED TO THE TWO VIEWS OBTAINED  
FINDINGS

CONTINUOUS FRACTURE ARE  
OF THE 2ND, 3RD, AND 4TH METATARSALS  
SUBLUXATION OF THE 5TH METATARSAL  
DISTAL FRACTURE

PORTION OF THE FRACTURE COMPLEX IS CONSISTENT WITH A LISFRANC FRACTURE COMPLEX. IN ADDITION, THERE HAS BEEN TRANSVERSE FRACTURES OF THE HEADS OF THE 2ND, 3RD, AND 4TH METATARSALS. IN PARTICULAR, THERE IS DISPLACEMENT OF THE SHAFT OF THE 2ND METATARSAL Laterally, THE ENTIRE WIDTH OF ITS DIAPHYSEAL SHAFT. THE FRACTURES OF THE HEADS OF THE 3RD AND 4TH METATARSALS ARE ONLY MINIMALLY DISPLACED AND ANGULATED. AGAIN, THE MEDIAL PORTION OF THE NAVICULAR IS NOT WELL SEEN DUE TO THE OVERLYING METALLIC BRACE IN THE AP AND OBLIQUE VIEWS. A FRACTURE OF THE MEDIAL PORTION OF THE NAVICULAR CANNOT TOTALLY BE EXCLUDED AT THIS TIME. THE CALCANEUS APPEARS GROSSLY INTACT WITH PRESERVATION OF BOEHLER'S ANGLE. THE REMAINING VISUALIZED OSSEOUS STRUCTURES APPEAR GROSSLY INTACT

#### IMPRESSION:

FRACTURE DISLOCATION AT THE BASE OF THE METATARSALS WITH FRACTURES OF THE 2ND, 3RD AND 4TH METATARSAL AND SUBLUXATION OF THE 5TH METATARSAL. IN ADDITION THERE ARE TRANSVERSE FRACTURES AT THE METADIAPHYSEAL REGION OF THE 2ND, 3RD AND 4TH METATARSALS AS DESCRIBED.



██████████  
RM: ██████████

EXAM DATE: ████████/90  
REQUESTING M.D.: ██████████

HIST: ██████████

LEFT FOOT:  
NO CLINICAL INFORMATION GIVEN.

THERE IS A DRESSING OVERLYING THE POSTERIOR PORTION OF THE FOOT AND THE CALCANEUS. THIS CAUSES DIFFICULTY WITH FINE DETAIL. ON THE LATERAL VIEW THERE ARE SOME BONE FRAGMENTS WHICH ARE MINUTE SEEN IN THE AREA OF THE METATARSAL HEADS THOUGH IT IS DIFFICULT TO LOCALIZE TO THE EXACT METATARSAL HEAD ON THE LATERAL VIEW

ON THE AP VIEW THERE IS NOTED TO BE DEFORMITY AT THE 3RD AND 4TH METATARSALS HEADS CONSISTENT WITH LEFT 3RD, 4TH METATARSAL HEAD FRACTURES.

██████████  
RM: ██████████

EXAM DATE: ████████/90  
REQUESTING M.D.: ██████████

HIST: ██████████

RIGHT FOOT VIEWS PORTABLE :  
F/U FX.

THERE ARE NOTED TO BE FRACTURES AT THE 2ND, 3RD, AND 4TH METATARSAL HEADS. THERE IS INTERNAL FIXATION OF THE 2ND AND 3RD METATARSAL HEAD FRACTURE WITH METALLIC PINS. THE INTERNAL FIXATION IS NEW SINCE THE PREVIOUS EXAMINATION ████████ '90. THE POSITIONS OF THE METATARSAL HEAD FRACTURES ARE IN APPROXIMATE ANATOMIC ALIGNMENT. SMALL AMOUNT OF SUBCUTANEOUS EMPHYSEMA IS PRESENT MEDIAL TO THE RIGHT 1ST PROXIMAL PHALANX. THERE IS ALSO NOTED TO BE TWO METALLIC PINS CENTERED AT THE PROXIMAL PORTION OF THE 2ND METATARSAL. THERE ARE AGAIN NOTED TO BE FRACTURES AT THE 2ND, 3RD AND 4TH PROXIMAL PORTIONS OF THE METATARSALS.

IMPRESSION.

INTERNAL FIXATION AT THE 2ND AND 3RD METATARSAL HEADS AND AT THE 2ND METATARSAL BONE PROXIMALLY.

THE FRACTURES ARE IN APPROXIMATE ANATOMIC ALIGNMENT.

THERE IS NOTED TO BE SOME SUBCUTANEOUS EMPHYSEMA LATERAL TO THE 1ST PROXIMAL PHALANX.

██████████  
RM: ██████████

EXAM DATE: ████████/90  
REQUESTING M.D.: ██████████

HIST: ██████████

RIGHT FOOT PORTABLE ████████ HOURS:  
MULTIPLE TRAUMA.

THIS EXAMINATION IS COMPARED WITH ████████-90. EXAMINATION IS DONE THROUGH CASTING MATERIAL. THE PIN FIXATING THE THIRD MTP JOINT HAS BEEN REMOVED. ALTHOUGH FINE BONE DETAIL IS OBSCURED BY OVERLYING PLASTER, THERE APPEAR TO BE EARLY CHANGES OF HEALING WITH SOME PERIOSTEAL REACTION PRESENT AT THE SECOND AND THIRD METATARSAL FRACTURE SITES. THE PIN THROUGH THE SECOND METATARSAL AND THE TWO PINS THROUGH THE DISTAL MID FOOT ARE REIDENTIFIED AND STABLE.

## **Radiographic Records:**

Preparation for Discharge

██████████  
RM: ██████████

EXAM DATE: ████████/90 HIST: ██████████  
REQUESTING M.D.: ██████████

RIGHT FEMUR, RIGHT FOOT, LEFT KNEE, ENTIRE SPINE AP AND LATERAL,  
PELVIS AP ONLY ████████/90.

CLINICAL: FULL C/T/L SPINE, AP/LAT R PROX FEMUR, L KNEE, R FOOT  
SERIES, AP PELVIS---CHECK ON FX

#### THORACIC AND LUMBAR SPINES;

THERE IS A MILD SUPERIOR PLATE COMPRESSION INVOLVING THE VERTEBRAL  
BODY AT T12. VERTEBRAL BODY ALIGNMENT IS NORMAL. I SEE NO FURTHER  
ABNORMALITIES IN THE THORACIC OR LUMBAR REGION. THE TRANSVERSE  
PROCESSES IN THE LUMBAR SPINE ARE NOT WELL VISUALIZED BECAUSE OF  
LARGE AMOUNTS OF OVERLYING BOWEL GAS. I DON'T SEE ANY INDICATION  
OF SIGNIFICANT PARASPINOUS ABNORMALITY AT ANY LEVEL.

#### CERVICAL SPINE;

AP, LATERAL AND ODONTOID VIEWS OF THE CERVICAL SPINE WERE  
OBTAINED. THE LATERAL VIEW LEAVES SOMEWHAT TO BE DESIRED BECAUSE  
OF PATIENT SIZE. THERE IS AN OSTEOPHYTE BRIDGING THE ANTERIOR  
INTERSPACE AT C2-3. THE CERVICAL SPINE ON THESE VIEWS IS OTHERWISE  
CONSIDERED TO BE WITHIN NORMAL LIMITS.

#### RIGHT FOOT;

THE EXTREMITY IS MAINTAINED IN A POSTERIOR PLASTER SPLINT. THERE  
ARE THREE FIXATION WIRES ONE LONGITUDINALLY ORIENTED IN THE LONG  
AXIS OF THE SECOND METATARSAL LOCATED IN THE MEDULLARY SPACE OF  
THAT BONE. THE OTHER TWO ARE OBLIQUELY DIRECTED ACROSS EACH OTHER,  
ONE ACROSS THE BASE OF THE METATARSALS AND ONE OBLIQUELY INTO THE  
CUBOID. THERE HAS BEEN SEVERE FRACTURES OF THE FOOT BOTH FOREFOOT  
AND MIDFOOT AND THE POSITION OF SOME OF THE OSSEOUS STRUCTURES  
COMBINED WITH THE PLASTER ARTIFACT MAKES IT IMPOSSIBLE TO IDENTIFY  
ALL THE ANATOMIC STRUCTURES SATISFACTORILY. THERE ARE FRACTURES  
INVOLVING THE DISTAL SECOND, THIRD, AND FOURTH METATARSALS WHICH  
SEEM SATISFACTORILY POSITIONED. THE CUBOID AND SECOND AND THIRD  
CUNEIFORMS ARE NOT ADEQUATELY IMAGED. ON THE PA VIEW THE SPACE  
BETWEEN THE FIRST AND SECOND METATARSALS IS UNUSUALLY WIDENED AND  
THE SECOND METATARSAL SEEMS DISPLACED TOWARDS THE LATERAL SIDE OF  
THE FOOT. ON THE OBLIQUE VIEW THERE IS OVERLAP OF OSSEOUS DENSITY  
ALONG THE DISTAL PORTION OF A CUBOID WHICH IS EITHER ONE OF THE  
CUNEIFORMS OR FRACTURED PORTION OF THE CUBOID AND THE INTERSPACE  
BETWEEN THE SECOND AND THIRD METATARSALS IS ABNORMALLY WIDENED. THIS  
UNDOUBTEDLY HAS RESULTED FROM SIGNIFICANT LIGAMENTOUS TEARS OF  
THE ANTI-TARSAL LIGAMENTS. THE RELATIONSHIP, THEREFORE, BETWEEN  
THE BASES OF THE SECOND AND THIRD METATARSALS AND THEIR RESPECTIVE  
TARSAL BONES IS IN QUESTION FROM THIS EXAMINATION.

AP PELVIS, RIGHT FEMUR, RIGHT HIP; -  
 THERE IS A SEVERE FRACTURE INVOLVING THE RIGHT HEMIPELVIS ALONG THE  
 ACETABULUM WITH MEDIAL DISPLACEMENT OF FRACTURE FRAGMENTS. THERE  
 IS CALCIFIED HEMATOMA AND CALLOUS ALONG THAT PORTION OF THE  
 HEMIPELVIS. THERE ARE ALSO FRACTURES INVOLVING THE ISCHIAL PUBIC  
 REGION ON THE RIGHT, THE MEDIAL PORTION OF THE PUBIC BONE ON THE  
 LEFT AND A LATERAL ILIAC FRACTURE ON THE LEFT. ALL ARE SHOWING  
 RADIOGRAPHIC SIGNS OF HEALING. THE FEMORAL HEAD ON THE RIGHT SEEMS  
 TO BE CONCENTRIC WITH RESPECT TO THE MAJOR PORTION OF THE  
 ACETABULUM ALTHOUGH THE ACETABULAR MEDIAL WALL HAS BEEN DISPLACED  
 MEDIALLY TOWARDS THE PELVIS. EXTENSIVE CALCIFYING HEMATOMA IS  
 EVIDENT ALONG THE PROXIMAL FEMUR AT THE JUNCTION OF FEMORAL HEAD  
 AND NECK ON THE RIGHT. A SUBTROCHANTERIC FRACTURE IS BEING  
 MAINTAINED IN POSITION WITH A ZICKLE APPLIANCE.

#### LEFT KNEE;

THERE IS A HIGHLY COMMUNUTED FRACTURE OF THE METAPHYSEAL PORTION OF  
 THE LEFT FEMUR WHICH IS ALSO SHOWING RADIOGRAPHIC SIGNS OF  
 HEALING. IT IS STABILIZED WITH A HORIZONTALLY PLACED THREADED BOLT  
 ACROSS THE INTRACONDYLAR REGION AS WELL AS A SIDE PLATE AND  
 THREADED BOLT WHICH STABILIZE THE METAPHYSEAL PORTION.

#### IMPRESSION:

MILD SUPERIOR PLATE COMPRESSION OF T12. I APPRECIATE NO OTHER  
 RADIOGRAPHIC ABNORMALITY ON THE LIMITED VIEWS OF THE SPINE WHICH  
 ARE PRESENTED. THERE ARE HEALING FRACTURES IN THE PELVIS AND  
 PROXIMAL RIGHT FEMUR AS WELL AS THE DISTAL LEFT FEMUR. ON THE  
 VIEWS THAT ARE AVAILABLE ON TODAY'S STUDY I HAVE RESERVATIONS  
 ABOUT THE POSITION OF THE BASES OF THE SECOND AND THIRD  
 METATARSALS AND THE RELATIONSHIP OF THE FRACTURE FRAGMENTS TO THE  
 TARSAL BONES IN THAT REGION. ALTHOUGH THE APPEARANCE ON THE  
 LATERAL VIEW SEEMS GENERALLY SATISFACTORY THERE IS QUESTION IN MY  
 MIND THAT THE BASES OF THE MID METATARSALS MAY BE DISPLACED  
 Laterally from what one would consider anatomic position.

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]  
 RM: [REDACTED] REQUESTING MD: [REDACTED]

PORTABLE AP UPRIGHT CHEST AT [REDACTED] HOURS ON [REDACTED] /90;  
 CLINICAL: INCREASED BREATHING DIFFICULTY ? CAUSE

STUDY IS COMPARED TO [REDACTED]. CENTRAL LINE HAS BEEN REMOVED. I  
 SEE NO OTHER CHANGE. MULTIPLE RIB FRACTURES ON THE LEFT WITH  
 ASSOCIATED PLEURAL REACTION AND BIBASILAR ATELECTASIS ARE RENOTED

[REDACTED]  
RM: [REDACTED]EXAM DATE: [REDACTED] / 90 HIST: [REDACTED]  
REQUESTING M.D.: [REDACTED]RIGHT HIP, LEFT FEMUR, LEFT FOOT, RIGHT FOOT PELVIS AP ONLY  
[REDACTED] 90,

PELVIS AND RIGHT FEMUR;  
REDEMONSTRATE THE ORTHOPEDIC FRACTURE FIXATING THE SUBTROCHANTERIC FRACTURE OF THE RIGHT FEMUR WITH SLIGHT VARUS DEFORMITY AND SIGNIFICANT CALLOUS FORMATION. FRACTURES OF THE RIGHT ACETABULUM, BOTH INNOMINATE RINGS AND THE LEFT ILIAC WING ARE RENOTED WITH INCREASING CALLOUS FORMATION UNCHANGED IN POSITION.

LEFT KNEE;  
LEFT KNEE HAS AN ORTHOPEDIC APPLIANCE FIXATING COMMUNUTED FRACTURE OF THE DISTAL FEMUR EXTENDING TO THE KNEE JOINT AND IN GOOD POSITION WITH SIGNIFICANT CALLOUS FORMATION.

RIGHT FOOT,  
IS COMPARED TO MULTIPLE PREVIOUS. PINS HAVE BEEN REMOVED. FRATURES OF THE HEADS OF THE 2ND, 3RD AND 4TH METATARSALS ARE RENOTED IN GOOD POSITION. THERE ARE FRACTURES OF THE BASES OF PROBABLY THE THIRD, FOURTH AND POSSIBLY FIFTH METATARSALS WITH SUBLUXATION AT THE TARSAL-METATARSAL ROW. CALLOUS FORMATION IS PRESENT.

LEFT FOOT;  
COMPARED TO PREVIOUS SHOWS HEALED FRACTURES OF THE HEADS OF THE THIRD AND FOURTH METATARSALS. ON THE CURRENT STUDY THERE MAY BE SLIGHT SUBLUXATION AT THE CALCANEAL CUBOID JOINT.

EXAM DATE: [REDACTED] /90 HIST: [REDACTED]  
 REQUESTING M.D.: [REDACTED]  
 RM: [REDACTED]

LEFT FOOT, RIGHT FOOT, RIGHT HIP, LEFT FEMUR, PELVIS AP ONLY

90;

CLINICAL: CHECK ON

FRACTURES OF THE DISTAL SECOND, THIRD AND FOURTH METATARSALS ON THE LEFT ARE HEALING SATISFACTORILY IN GOOD POSITION.

THERE ARE COMMINUTED FRACTURES INVOLVING THE DISTAL SECOND, THIRD AND FOURTH METATARSALS ON THE RIGHT AS WELL AS COMMINUTED FRACTURE OF THE BASE OF THE SECOND METATARSAL AND FRACTURES OF THE THIRD AND PROBABLY FOURTH METATARSAL BASES AS WELL AS THE FIRST ON THE RIGHT SIDE. THERE IS A BONY FRAGMENT OR SOFT TISSUE CALCIFICATION BETWEEN THE NAVICULA AND THE CUBOID; I THINK THIS PROBABLY REPRESENTS A FRACTURE FRAGMENT WHICH IS DISSOLVING. THE JOINT SPACE BETWEEN THE CUBOID AND THE CUNEIFORM IS WIDENED AND DISRUPTED AND THERE IS DISRUPTION OF THE INTERTARSAL SPACE BETWEEN THE FIRST AND THE SECOND METATARSALS WITH DISRUPTION OF THE INTERTARSAL LIGAMENT. THIS IS A LISFRANC FRACTURE. THERE IS EVIDENCE OF HEALING AS THE EDGES OF THE FRACTURE FRAGMENTS ARE NO LONGER SMOOTH. THERE IS EXTENSIVE DEMINERALIZATION OF DISUSE. PROXIMAL FEMORAL FRACTURE ON THE RIGHT HAS BEEN STABILIZED WITH AN INTRAMEDULLARY ZICKLE TYPE OF APPLIANCE AND THREADED SCREW. THERE IS EXTENSIVE MYOSITIS OSSIFICANS AND DYSTROPHIC BONE FORMATION BOTH MEDIALY AT THE LEVEL OF THE LESSER TROCHANTER AND SUPERIORLY AT THE EXIT OF THE APPLIANCE. HEALING IS TAKING PLACE. THE MEDIAL FEMORAL NECK CORTEX IS DISPLACED Laterally WITH RESPECT TO THE ALSO HEALING. THERE HAS BEEN CONSIDERABLE MEDIAL DISRUPTION OF THE MEDIAL WALL OF THE ACETABULUM. THE SPACE BETWEEN THE FEMORAL HEAD AND THE MEDIAL WALL IS IN EXCESS OF 2 CM, HOWEVER, I CAN'T TELL FROM THIS STUDY WHETHER THIS IS ALL DUE TO MOVEMENT OF THE ACETABULAR WALL OR WHETHER IN FACT THERE IS RADIOLOUCENT OR OSSEOUS MATERIAL WITHIN THE JOINT. THERE IS IRREGULARITY OF THE LATERAL MARGIN OF THE ILIAC WING ON THE LEFT WHICH IS EITHER POST TRAUMATIC OR POST SURGICAL.

THE COMMINUTED FRACTURE OF THE DISTAL FEMUR ON THE LEFT IS STABILIZED WITH A SIDEPLATE AND SEVERAL SCREWS. THE ALIGNMENT IS SATISFACTORY. HEALING IS PROGRESSING. THERE IS REGIONAL DEMINERALIZATION OF BONE AND EXTENSIVE SOFT TISSUE CALCIFICATION IS NOTED AS WELL.

#### IMPRESSION:

ALL AREAS SHOW FRACTURES WHICH ARE HEALING. THERE IS STILL DISRUPTION OF THE SECOND METATARSAL ON THE RIGHT WITH RESPECT TO THE FIRST SECONDARY TO LIGAMENTOUS INJURY. AGAIN NOTED IS WIDENING OF THE HIP JOINT ON THE RIGHT FOR WHICH A NUMBER OF POSSIBILITIES EXIST AS TO ETIOLOGY.